Brownfields Supplemental Site Investigation Report
Pigeon Property
1705 Route 128
Westford, Vermont

DEC SMS#2019-4863, EPA RFA 19093

February 12, 2021

Prepared for:

Chittenden County Regional Planning Commission
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1.0 EXECUTIVE SUMMARY

LE Environmental LLC (LEE) conducted a Brownfields Supplement Site Investigation (SSI) at the Pigeon Property, located at 1705 Route 128, Westford, Chittenden County, Vermont (Site). The SSI was conducted pursuant to the approved Site-Specific Quality Assurance Project Plan Addendum (SSQAPP Addendum) dated November 12, 2020, approved November 16, 2020, and the American Society of Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process (ASTM E 1903-11). This assessment was conducted for the Chittenden County Regional Planning Commission (CCRPC) and Co-Operative Insurance Companies. A portion of this work is supported by the US Environmental Protection Agency (USEPA), the CCRPC, and the nineteen member municipalities in Chittenden County. CCRPC is funding this work via EPA Brownfields Assessment Grant #BF00A00483. The Site owner is the Pigeon Family Living Trust.

The Site includes a vacant residence and a former bus repair garage and gasoline filling station on approximately 3.3 acres of land. The buildings are currently unoccupied and are used for storage. The Site was developed prior to 1858, and historic Site use has included residential, a gasoline filling station, and automotive and bus repair. A small store was also once present on the southeastern portion of the property, and a tannery was noted on the adjoining property to the west in 1869.

The Site is located on the north side of Route 128. The area immediately surrounding the Site is the town center of Westford, with closely spaced residential homes, a municipal office building, a public library, and a town common. The DEC indicates that the Site is in a Vermont Department of Environmental Conservation (DEC) designated “urban background” zone for soil contamination. The topography of the Site is fairly flat on its south side, near Route 128, and then slopes downward to the north, toward the Browns River. There is also a ravine on the eastern side of the Site, which contains an outlet drainage pipe for the town common’s stormwater system. No odors or sheens have been noted on the water exiting the outlet pipe. Portions of the northern and eastern ends of the property appear to have wetland vegetation.

Three structures are currently present on the property. The residence is a two-story, wood framed structure with a full basement. The garage is a single-story, wood framed structure, with a slab on-grade foundation. The third building is a small wood framed shed.

A Phase II Environmental Site Assessment (ESA) was conducted in 2020 to investigate Recognized Environmental Conditions (RECs) identified in a 2019 Phase

I ESA. The ESA concluded the abandoned gasoline underground storage tank (UST) had failed and soils and groundwater in the vicinity were impacted with Volatile Organic Compounds (VOCs) above regulatory standards. A pipe with unknown purpose was also noted on the southern wall of the UST excavation. The excavation could not be extended in this direction due to the presence of Route 128 and special permitting, traffic control and engineering would be required to dig in this area. The limits of the dissolved-phase contaminant plume were not defined during the Phase II ESA.

Shallow and deep soils were found to be impacted with petroleum contamination in the southern portion of the property, near the former UST location, and in the parking area to the east. Shallow soils are impacted with Polycyclic Aromatic Hydrocarbons (PAHs) in the area to the north and northeast of the garage. The limits of the PAH contamination were not defined during the Phase II ESA. LEE recommended additional delineation of soil and groundwater contamination should be completed.

The SSI included a geophysical investigation in the roadway near the suspect pipe noted during the UST removal, an additional round of groundwater sampling of the existing groundwater monitoring wells followed by installation of additional groundwater monitoring wells and a subsequent round of groundwater sampling, a soil boring investigation of shallow soil PAH contamination, drinking water sampling, and a soil vapor investigation.

A geophysical investigation was conducted to investigate the area around the suspect pipe noted on the southern edge of the previous UST excavation on November 24, 2020. No evidence of a pipe or additional USTs beneath Route 128 was noted during the geophysical investigation.

A confirmatory round of groundwater sampling was performed on December 3, 2020. The depth to water ranged from 2.86’ below grade (bg) at MW-1 to 8.62’ bg at MW-5. Concentrations of benzene, toluene, ethylbenzene, xylenes, trimethylbenzenes, and naphthalene in excess of the Vermont Groundwater Enforcement Standards (VGES) were reported in the vicinity of the former UST location (MW-1). Ethylbenzene was reported in MW-2 below the VGES. No contaminant concentrations were reported above laboratory detection limits in MW-3, MW-4, or MW-5. A supply well sample was also obtained on December 3, 2020, and no VOCs were reported in the water supply sample.

Thirteen soil borings were advanced at the Site on December 21, 2020. Ten soil samples and a duplicate were obtained during drilling. Three additional groundwater monitoring wells, four soil gas wells, and two vapor pins were installed.

PAH toxicity equivalency quotient (TEQ) concentrations in excess of the DEC's Statewide Urban Background concentration were identified in five of the ten shallow soil samples obtained in this SSI (SB-102, SB-103, SB-104, SB-105, and SB-106). The northwestern, western, southern, and eastern limits of the PAH-impacted shallow soil were identified by the SSI sampling. However, the northern-most soil shallow soil samples contained PAH TEQ above the DEC's Statewide Urban Background concentration, indicating the extent of the contamination continues to the north some distance. The area of soils impacted is likely correlated to the historic storage of buses, auto parts, and other machinery in this area.

An additional round of groundwater sampling, including the three newly installed monitoring wells, was performed on January 7, 2021. The depth to water ranged from 2.09' bg at MW-7 to 10.27' bg at MW-5. Concentrations of MTBE, benzene, toluene, ethylbenzene, xylenes, trimethylbenzenes, and naphthalene in excess of the VGES were reported in MW-1. A naphthalene concentration in excess of the VGES was reported in MW-8. Concentrations of ethylbenzene and 1,3,5-trimethylbenzene below the VGES were reported in MW-2.

The northern, western, and southern portions of the groundwater contaminant plume have been defined. The eastern edge of the plume is not fully defined, but it likely terminates in the vicinity of MW-8 based on the fairly low concentration of naphthalene reported there.

Three soil gas, two sub-slab soil gas, and one outdoor ambient air sample were obtained on January 2, 2021. The soil gas samples were analyzed for the presence of VOCs via EPA Method TO-15.

Several VOCs were reported in the soil gas samples including: benzene, carbon tetrachloride, ethylbenzene, methylene chloride, tetrachloroethene (PCE), acetone, ethanol, isopropanol, tetrahydrofuran, toluene, Freon 11, and xylenes. None of the reported concentrations exceeded DEC's residential vapor intrusion standards.

LEE has developed the following recommendations during this SSI:

- Groundwater monitoring should continue to be performed on an annual basis to track the groundwater contaminant plume at the Site.
- An evaluation of corrective action alternatives (ECAA) and a corrective action plan (CAP) should be prepared per the requirements of Subchapter 6 of the DEC's I-Rule.

2.0 SITE INFORMATION

LE Environmental LLC (LEE) conducted a Brownfields Supplement Site Investigation (SSI) at the Pigeon Property, located at 1705 Route 128, Westford, Chittenden County, Vermont (Site). The SSI was conducted pursuant to the approved Site-Specific Quality Assurance Project Plan Addendum (SSQAPP Addendum) dated November 12, 2020, approved November 16, 2020, and the American Society of Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process (ASTM E 1903-11). This assessment was conducted for the Chittenden County Regional Planning Commission (CCRPC) and Co-Operative Insurance Companies. A portion of this work is supported by the US Environmental Protection Agency (USEPA), the CCRPC, and the nineteen member municipalities in Chittenden County. CCRPC is funding this work via EPA Brownfields Assessment Grant #BF00A00483. The Site owner is the Pigeon Family Living Trust.

Site Information Table

Site Owner Name:	Pigeon Family Living Trust – George Pigeon
Site Owner Address:	1705 Route 128, Westford, VT 05494
Site Owner E-mail:	gepigeon@msn.com
Site Owner Phone:	(802) 355-6628

3.0 CURRENT USE OF THE SITE

The Site includes a vacant residence and a former bus garage on approximately 3.3 acres of land. The buildings are currently unoccupied and are used for storage.

4.0 CURRENT ADJOINING PROPERTY USES

Current uses of the adjoining properties are as follows:

- North: Residential
- South: Town Common
- East: Multi-family residential
- West: Municipal Offices

5.0 SITE DESCRIPTION

The Site is located on the north side of Route 128. The area immediately surrounding the Site is the town center of Westford, with closely spaced residential homes, a municipal office building, a public library, and a town common. The DEC indicates that the Site is in a designated “urban background” zone for soil contamination. The topography of the Site is fairly flat on its south side, near Route

128, and then slopes downward to the north, toward the Browns River. There is also a ravine on the eastern side of the Site, which contains an outlet drainage pipe for the town common's stormwater system. No odors or sheens have been noted on the water exiting the outlet pipe. Portions of the northern and eastern ends of the property appear to have wetland vegetation.

Three structures are currently present on the property. The residence is a two-story, wood framed structure with a full basement. The garage is a single-story, wood framed structure, with a slab on-grade foundation. The third building is a small wood framed shed.

6.0 LATITUDE/LONGITUDE

The Site coordinates are The Site coordinates are 44° 36' 45.78'' north latitude and 73° 0' 34.99'' west longitude.

7.0 PROPERTY HISTORY

The Site was developed prior to 1858. Historic Site use has included residential, with a gasoline filling station, and automotive and bus repair. A small store was also once present on the southeastern portion of the property. A building was noted on or near the northeastern property line on historic (1869 and 1915) maps. The building was gone by 1948. A tannery was noted on the adjoining property to the west in 1869.

A geophysical investigation performed at the Site revealed the possible presence of an underground storage tank (UST) near Route 128, and several smaller buried metal objects.

LEE prepared a Phase I ESA report for the property in September 2019[1], and three Recognized Environmental Conditions (RECs) were identified during the Phase I ESA:

1. Historic use of the property for bus/automotive repair and as a gasoline filling station.
2. Possible presence of an abandoned UST.
3. Historic adjoining property use as a tannery.

A Phase II ESA was recommended to determine whether contamination is present on the Site due to the identified RECs. Subsequently, LEE conducted geophysical testing to locate an abandoned UST in 2019 and a Brownfields Phase II ESA in

[1] LE Environmental LLC, Phase I Environmental Site Assessment Report, September 23, 2019.

2020.[2] Both tasks were performed for the CCRPC. The Phase II ESA included assessment of the soils around and below the abandoned gasoline UST, which necessitated its removal, soil boring advancement, groundwater monitoring well installation, soil sampling, groundwater sampling, and drinking water sampling.

In order to access the soils around and beneath it, the abandoned, 1,100-gallon, gasoline UST was removed from the Site on June 2, 2020. The UST was a relic of the former gasoline filling station that operated on the Site from circa 1940 through the mid 1980s. The age of the UST and piping is not known, but it appeared to be at least 80 years old. The UST was a single-walled tank, and piping from other former USTs was also encountered in the excavation. The piping for the removed UST appeared to have been cut near the former pump island, and had paper stuffed in the end. It was buried approximately 1.5' to 2' below grade (bg), and was found to be in failed condition upon removal, with extensive rust, pitting, and several large holes in the bottom of the UST. Groundwater was encountered at 6' bg in the excavation, and a sheen was noted on the groundwater.

The photoionization detector (PID) readings ranged from 17.1 parts per million (ppm) in soil under the former dispenser island to 2,374 ppm at the top of the tank where piping (not attached to this tank) was found. PID readings ranging from 1,286 ppm to 1,644 ppm were observed under the UST, which was also where groundwater was encountered.

A pipe with unknown purpose was noted on the southern wall of the UST excavation. The excavation could not be extended in this direction due to the presence of Route 128 and special permitting; traffic control, and engineering would be required to dig in this area.

During the Phase II ESA the depth to water ranged from 4.45' bg in the southern portion of the Site to 11.59' bg in the northern portion of the Site. The overall groundwater flow beneath the Site appears to be northerly. The approximate hydraulic gradient is approximately 10% on the southern portion of the Site and 16% in the central and northern portions of the Site.

Groundwater was found to be impacted with petroleum related Volatile Organic Compounds (VOCs) during the Phase II ESA, at concentrations above the Vermont Groundwater Enforcement Standards (VGES) and above the vapor intrusion (VI) standards for groundwater in the vicinity of the former UST. The limits of the dissolved-phase groundwater contaminant plume were not defined by the Phase II ESA. The overall low permeability of the native soils implies the migration of the contaminant plume will be limited. The low permeability of the soils was evident

[2] LE Environmental LLC, Brownfields Phase II Environmental Site Assessment Report, Pigeon Property, July 24, 2020.

during sampling, where very low recharge was noted in the groundwater monitoring wells.

The Phase II ESA indicated that shallow and deep soils are impacted with petroleum contamination in the southern portion of the property, near the former UST location, and in the parking area to the east. Shallow soils are impacted with Polycyclic Aromatic Hydrocarbons (PAHs) in the area to the north of the garage. The limits of the PAH contamination were not defined during the Phase II ESA.

No VOCs were reported in the drinking water sample obtained during the Phase II ESA.

LEE developed the following recommendations during the Phase II ESA.

- Additional delineation of soil and groundwater contamination should be completed. Additional groundwater sampling of the existing groundwater monitoring wells should be performed prior to delineation. A soil vapor investigation should be performed to ensure the contamination detected is not impacting the indoor air quality in the residence and garage. In addition, soil vapor should be investigated in areas slated for redevelopment. A suspect pipe near Route 128 should be investigated via a geophysical investigation in the roadway. Once additional investigations are completed, an Evaluation of Corrective Action Alternatives could be considered.

8.0 SITE CONTAMINANT BACKGROUND

A. Release Date and Description

Evidence of releases of hazardous substances and petroleum products at the Site was observed during the Phase II ESA, and during this SSI. Exceedances of regulatory groundwater and residential soil standards are noted below:

1. Elevated PID readings, stained soils, and strong petroleum odors were noted in the gasoline UST excavation, including at shallow depths near the surface. Additionally, soils beneath the former UST had concentrations of Benzene, Ethylbenzene, Xylenes, trimethylbenzenes, and Naphthalene above residential regulatory standards. The fuel ID sample collected from underneath the UST indicated the presence of leaded gasoline.
2. Shallow and deep soils in the former dispenser area also had elevated PID readings, staining, and strong petroleum odors. Concentrations of Benzene and Naphthalene exceeded residential regulatory standards in the deep soils
3. Deep soils in the parking area on the southeastern portion of the Site exhibited elevated PID readings, staining, and weathered petroleum odors (SB-4).

4. Soils in soil boring SB-5/MW-2 exhibited elevated PID readings and petroleum odors at the groundwater interface. However, the contaminant concentrations reported from the soil sample did not exceed residential regulatory standards.
5. Shallow soil samples obtained from an area north of the garage, where machinery was stored in the past, has concentrations of PAH TEQ values in excess of the DEC's Statewide Urban Background concentration.
6. Groundwater in the former UST location (MW-1) has concentrations of MtBE, Benzene, Toluene, Ethylbenzene, Xylenes, trimethylbenzenes, Naphthalene, Arsenic, and Lead in exceedance of the Vermont Groundwater Enforcement Standards (VGES).
7. Downgradient monitoring well MW-2 and MW-5 had concentrations of Benzene and Naphthalene in exceedance of the VGES, and concentrations of Ethylbenzene were also reported above the VGES at MW-2 during the Phase II ESA. These exceedences were not replicated in the SSI. Groundwater exceedances noted during the SSI were limited to the former UST location (MW-1) and MW-8 (Naphthalene only).

B. Release Report Date

The petroleum release from the gasoline UST was reported via a phone call to the spill number and the Sites Management Section at the DEC on June 2, 2020. Releases identified during the Phase II ESA were reported via submission the report dated July 24, 2020. Additional contaminant exceedances are being reported via submittal of this document to the DEC.

C. Release Response Actions

No release response actions have been completed for the reported releases.

D. Previous Environmental Documents

The following previous environmental documents exist for this Site and are on file with the DEC:

- Phase I Environmental Site Assessment Report dated September 23, 2019.
- Site-Specific Quality Assurance Project Plan Addendum dated February 25, 2020.
- UST Removal, Pigeon Property, 1705 Route 128, Westford, Vermont, dated June 25, 2020.
- Brownfields Phase II Environmental Site Assessment Report dated June 2, 2020.
- Site-Specific Quality Assurance Project Plan Addendum dated November 12, 2020.

E. Copy of Previous Environmental Documents

The referenced reports are on-file with the DEC in Montpelier, Vermont.

F. List of Governmental Records Reviewed

LEE reviewed various governmental records during and preceding this Phase II ESA, including records reviewed during the Phase I ESA:

- Town of Westford Land Records
- State of Vermont Department of Environmental Conservation Hazardous Sites List, Solid Waste Facilities list, Leaking UST and Above-ground Storage Tank database, Brownfields List
- EPA National Priorities List (NPL), Proposed NPL, Delisted NPL, CERCLIS, RCRA CORRACTS, RCRA TSDF, RCRA Generators database, Institutional Controls inventory, Emergency Response Notification System

9.0 UPDATED CONCEPTUAL SITE MODEL

A. Updated Site Conceptual Model

The area immediately surrounding the Site is the town center of Westford, with closely spaced residential homes, a municipal office building, a public library, and a town common. The topography of the Site is fairly flat on its south side, near Route 128, and then slopes downward to the north, toward the Browns River. There is also a ravine on the eastern side of the Site, which contains an outlet drainage pipe for the town common's stormwater system. No odors or sheens have been noted on the water exiting the outlet pipe.

The Site was developed as of the earliest record located thus far (1858). The property use has included residential with a gasoline filling station and automotive and bus repair. According to the current owner, the gasoline tanks were no longer used after circa 1985. A small store was also once present on the southeastern portion of the Site. A tannery was present on the adjoining property to the west on an 1869 map. It is unknown how long the tannery operated.

The on-Site residence is heated with fuel oil. The garage is not currently heated but appears to have been heated with wood, propane, and/or fuel oil historically. The buildings are served by a private dug supply well and at least one septic system. The configuration and location of the septic system is not known.

Bedrock was not encountered in this Phase II ESA. According to the most recent geologic map of Vermont, the bedrock in the vicinity of the Site consists of Cambrian

and Neoproterozoic aged schist in the Pinnacle formation and the overburden deposits in the area of the Site are mapped as boulders in clay.[3]

The Site is approximately 470 feet above current sea level on the southern portion of the Site, and drops to approximately 435 feet above current sea level at the northern terminus of the parcel boundary. This area has undergone extensive deposition and erosional processes through recent glacial events. The retreat of the Laurentide Ice Sheet led to the formation of glacial Lake Vermont approximately 13,500 years ago. The elevation of the lake surface was approximately 620 feet above sea level, significantly higher than the elevation of the current Lake Champlain. Streams flowing off the melted glacier deposited many sediments, with larger sediments deposited near the front of the glacier and finer grained sediments deposited away from the front of the glacier. Clay and silt varves were deposited in the calmer portions of Lake Vermont.[4]

The data obtained from soil borings indicate the soils at the Site consist of an approximately 3' thick layer of sand with varying amounts of silt overlaying dense, native clay. The clay contained distinct sand layers in each boring, and distinct varves have been noted in several soil borings. This data suggests the Site was likely located in a calmer portion of Lake Vermont. Sand layers noted in the clay point to periods of higher energy deposition in the lake.

The depth to groundwater at the Site varied between the three groundwater sampling events performed to date. Groundwater levels in December 2020 were 0.45' to 6.89' higher than those reported in June 2020. The groundwater levels in January 2021 were 0.38' to 4.67' lower than those reported in December 2020. The depth to water in January 2020 ranged from 2.09' bg at MW-7 to 10.27' bg at MW-5. Groundwater flow is generally toward the north and northeast. The hydraulic gradient in the southern portion of the Site has been calculated between 5 and 10%, while the hydraulic gradient on the central and northern portions of the Site has been calculated between 16 and 22%

The overall low permeability of the native soils implies the migration of the contaminant plume is limited, and it is not expected to travel off-Site. The low permeability of the soils was evident during sampling, where very low recharge has been noted in the groundwater monitoring wells. The sand layers noted during drilling are likely the mechanism for the migration of the low-level dissolved phase contamination away from the UST area.

Shallow and deep soils are impacted with petroleum contamination in the southern portion of the property, near the former UST location, and in a portion of the parking area to the east. Shallow soils are impacted with PAHs in the area to the

[3] ANR Atlas.
[4] S.F. Wright

north and northeast of the garage. The limits of the shallow soil PAH contamination have been defined to the northwest, west, south, and east. The northern extent of the shallow soil PAH contamination has not been fully defined. However, the extent of the contamination likely correlates to the areas on the Site where buses, auto parts, and other machinery were previously stored.

Groundwater is impacted with petroleum related VOCs at concentrations above the VGES and the VI standards for groundwater in the vicinity of the former UST. The VGES exceedances are primarily limited to the former UST, with low-level contamination extended approximately 100' to the west, 50' to the north, and 75' to the east. The northern, southern, and western limits of the dissolved-phase contaminant plume were defined by this investigation. The eastern edge of the plume is not fully defined, but it likely terminates in the vicinity of MW-8 based on the fairly low concentration of naphthalene reported there.

Soil gas sampling results indicate several VOCs are present in the soil gas at the Site including: benzene, carbon tetrachloride, ethylbenzene, methylene chloride, tetrachloroethene (PCE), acetone, ethanol, isopropanol, tetrahydrofuran, toluene, Freon 11, and xylenes. None of the reported concentrations exceeded residential VI standards. The results suggest that while VOCs were detected in all of the soil gas samples obtained, since none of these concentrations exceeded residential VI standards, Site users are not likely to be impacted by these contaminants via vapor intrusion into the structures.

B. Potential Contamination Sources

The most apparent source(s) of contamination at the Site include the leaking gasoline UST removed in June 2020 (soil and groundwater), historic USTs (soil and groundwater), and historic use and storage of hazardous substances and petroleum products (shallow soil).

C. Potential Receptors

Potential receptors of contamination include Site users. Shallow soils are impacted with petroleum and PAHs at the Site. The limits of the dissolved-phase petroleum contamination plume have been fully defined by this assessment except in the vicinity of MW-8, which is the eastern-most monitoring well in the network. The northern limit of the shallow soil PAH contamination remains undefined, but the zone of contamination appears to be attributed to the previous bus and miscellaneous metal storage areas on the Site. The groundwater plume is not likely to be migrating off-Site due to the low permeability soils on the Site and the lack of contamination noted in the downgradient groundwater monitoring well. The Site is currently vacant and not used.

D. Utility Corridors

Buried underground utilities known to exist on or in the immediate vicinity of the Site include the water line from the well to the residence and garage, and the septic systems for the buildings. The Westford Common to the south of the Site has a series of drainage lines, which connect to a drainage culvert on the eastern portion of the Site. The drainage outfall has been inspected several times and no petroleum odors or sheens have been noted to date.

E. Water Bodies and Wetlands

The Browns River abuts the property on its northeast side, and is approximately 450' from the former UST location. There is also an unnamed tributary that runs through the western portion of the property, and this tributary is approximately 200 feet northwest of the former UST location. The ANR Natural Resources Atlas does not depict Vermont State Wetland Inventory (VSWI) or wetlands advisory areas on the Site. However, apparent wetland vegetation was noted on the northern portions of the Site. Based on the results of the investigation, surface water does not appear to be at risk.

F. Water Supplies

The Site and nearby properties are served by private wells. Approximately 28 water supply wells are depicted on the ANR Natural Resources Atlas within a quarter-mile of the Site. The on-Site supply well was sampled and tested for VOCs twice, and no detections of VOCs or exceedances of regulatory standards were noted. The data suggests off-Site supply wells are unlikely to be impacted from contamination at this Site.

G. Site Users

The Site is currently unoccupied and not being used except for storage by the owners of the property. Portions of the area have shallow soil contamination and future Site users could come into contact with this soil.

10.0 WORK PLAN DEVIATIONS

All of the work described in the approved SSQAPP Addendum dated November 12, 2020 was performed as described with the following deviations:

- A soil gas sample could not be obtained from SG-1 due to shallow groundwater table that infiltrated the soil gas well

11.0 SAMPLE COLLECTION DOCUMENTATION

The following tables outline the location of samples, the method of collection, and the well or soil boring identification number.

Soil Samples

Sample ID	Depth (ft bg)	Analytical Methods	Collection Method
SB-101	0-1.5	PAHs via 8270D	Grab from Sample Sleeve
SB-102	0-1.5	PAHs via 8270D	Grab from Sample Sleeve
SB-103	0-1.5	PAHs via 8270D	Grab from Sample Sleeve
SB-104	0-1.5	PAHs via 8270D	Grab from Sample Sleeve
SB-105	0-1.5	PAHs via 8270D	Grab from Sample Sleeve
SB-106	0-1.5	PAHs via 8270D	Grab from Sample Sleeve
SB-107/Duplicate	0-1.5	PAHs via 8270D	Grab from Sample Sleeve
SB-108	0-1.5	PAHs via 8270D	Grab from Sample Sleeve
SB-109	0-1.5	PAHs via 8270D	Grab from Sample Sleeve
SB-110	0-1.5	PAHs via 8270D	Grab from Sample Sleeve

Groundwater Samples

Sample ID	Analytical Methods	Collection Method
MW-1	VOCs via 8260C (VT Petro List 12/3/20) VOCs via 8260C (1/7/21)	Grab via Low Flow Sampling
MW-2/Duplicate	VOCs via 8260C (VT Petro List 12/3/20) VOCs via 8260C (1/7/21)	Grab via Low Flow Sampling
MW-3	VOCs via 8260C (VT Petro List 12/3/20) VOCs via 8260C (1/7/21)	Grab via Low Flow Sampling
MW-4	VOCs via 8260C (VT Petro List 12/3/20) VOCs via 8260C (1/7/21)	Grab via Low Flow Sampling
MW-5	VOCs via 8260C (VT Petro List 12/3/20) VOCs via 8260C (1/7/21)	Grab via Low Flow Sampling
MW-6	VOCs via 8260C (1/7/21)	Grab via Low Flow Sampling
MW-7	VOCs via 8260C (1/7/21)	Grab via Low Flow Sampling
MW-8	VOCs via 8260C (1/7/21)	Grab via Low Flow Sampling

Drinking Water Sample

Sample ID	Analytical Methods	Collection Method
DWS-1	VOCs via 524.2	Grab from Pressure Tank

Soil Gas Samples

Sample ID	Analytical Method	Collection Method
SG-2	TO-15	Grab via 6L Summa Canister
SG-3	TO-15	Grab via 6L Summa Canister
SG-4	TO-15	Grab via 6L Summa Canister
VP-1	TO-15	Grab via 6L Summa Canister
VP-2	TO-15	Grab via 6L Summa Canister
Ambient Air	TO-15	Grab via 6L Summa Canister

12.0 CONTAMINATED MEDIA CHARACTERIZATION

LEE performed a SSI consisting of a soil, groundwater, drinking water, and soil gas evaluation. The goal of this work was to determine whether the past use and storage of hazardous substances and petroleum products on the property have impacted soils, groundwater, drinking water, and/or soil gas. The future plans for development of the Site include possible construction of new municipal offices, and/or commercial and residential development. Therefore, all laboratory analytical data have been evaluated in the context of state and federal residential thresholds for contaminated media in a DEC-designated urban background soil location. Photos showing the investigation locations are in Appendix C.

A. Geophysical Investigation

On November 24, 2020, Vermont Underground Locators of Williston, Vermont, conducted a geophysical investigation beneath Route 128 adjacent to the south side of the Site. Green Mountain Flagging assisted in the temporary lane closure of Route 128 in order to investigate the area around the suspect pipe noted on the southern edge of the previous UST excavation. No evidence of a pipe or additional USTs were noted beneath Route 128 during the geophysical investigation.

B. Soil

Prior to the initiation of subsurface activities, LEE pre-marked the proposed boring locations and Dig Safe ticket number 20202304559 was obtained. A Site-Specific Health and Safety Plan was prepared and reviewed by field staff prior to work. The locations of the soil borings are noted on the Site Map.

On December 21, 2020, LEE oversaw advancement of thirteen soil borings at the locations shown on the attached maps. T&K Drilling of Troy, NH advanced soil borings SB-101 through SB-112 using a Geoprobe with a 2.25" x 3' stainless steel sampler. Soil boring SB-113 was advanced in the dirt floor basement of the existing residence using a hand auger. Continuous soil sampling was conducted during soil boring advancement. Soil samples were screened for VOCs using a calibrated PID.

Three of the geoprobe soil borings were completed as monitoring wells (SB-101/MW-6, SB-111/MW-7, and SB-107/MW-8) and were advanced to a depth of 12' bg. Four of the soil borings were completed as soil gas wells (SB-112/SG-1, SB-106/SG-2, SB-113/SG-3, and SB-109/SG-4). Soil gas wells SG-1, -2, and -4 were installed to a depth of 4' bg. Soil gas well SG-3 was installed in the dirt floor basement of the existing residence using a hand auger at a depth of 2' bg. The remaining soil borings were advanced to a depth of 1.5' bg to collect shallow soil samples.

Soil samples were collected from soil borings SB-101 through SB-110 from 0-1.5' bg for laboratory analysis of PAHs via EPA Method 8270d. A duplicate sample was obtained from SB-107. Samples were submitted to Eastern Analytical Inc. of Concord, NH (EAI) for analysis.

Results of soil sampling were tabulated in comparison to the current I-Rule residential soil standards. Concentrations of PAHs were reported in all of the soil samples. PAH concentrations were converted to TEQ relative to benzo[a]pyrene. PAH TEQ in excess of the DEC's Statewide Urban Background concentration were identified in samples SB-102, SB-103, SB-104, SB-105, and SB-106. The tabulated soil testing results, Method 2 CRA worksheets, and laboratory report are in Appendix D.

C. Groundwater

December 3, 2020

A confirmatory round of the groundwater monitoring was conducted on December 3, 2020. The existing groundwater monitoring wells MW-1 through MW-5 were sampled via low-flow sampling techniques. Prior to groundwater sample collection, depth to water was measured with a water level indicator from the top of casing reference points. These data were used to calculate the water level elevations, and to determine the groundwater flow direction and horizontal gradient beneath the Site.

The depth to water ranged from 2.86' bg at MW-1 to 8.62' bg at MW-5. The overall groundwater flow was directed to the north. The approximate hydraulic gradient was approximately 5% on the southern portion of the Site and 20% in the central and northern portions of the Site.

Groundwater samples were collected from the monitoring wells using a peristaltic pump and low flow sampling methods. Purging took place at approximately 200 milliliters per minute. MW-5 was purged dry fairly quickly, and sampling occurred following recharge. The groundwater samples were collected directly from the pump discharge tubing into laboratory-supplied pre-acidified sample containers.

Groundwater samples were analyzed for VT List Petroleum VOCs via EPA Method 8260c. A duplicate sample and a trip blank was analyzed for VOCs. Samples were submitted to EAI for analysis.

The groundwater testing results were tabulated in comparison to the current VGES and I-Rule residential VI standards. Concentrations of benzene, toluene, ethylbenzene, xylenes, trimethylbenzenes, and naphthalene in excess of the VGES were reported in MW-1. The laboratory detection limits were elevated in MW-1 due to the high contaminant concentrations in the sample. Ethylbenzene was reported in

MW-2 below the VGES. No contaminant concentrations were reported above laboratory detection limits in MW-3, MW-4, or MW-5.

January 7, 2021

Three additional groundwater monitoring wells (MW-6, -7, and -8) were installed at the Site on December 21, 2020. The wells were installed to a depth of 12' bg. Each well consists of a 1" PVC monitoring well with a 10' length of 1" slotted screen spanning the water table. The wells are flush mounted with steel road box covers. Each well was developed following its installation with a peristaltic pump. The locations of the monitoring wells were measured/surveyed and incorporated into the attached Site maps. Soil boring and groundwater monitoring well construction logs are included in Appendix B.

On January 7, 2021, LEE collected groundwater samples using low-flow sampling techniques from all eight monitoring wells. Prior to groundwater sample collection, depth to water was measured with a water level indicator from the top of casing reference points.

The depth to water ranged from 2.09' bg at MW-7 to 10.27' bg at MW-5. The overall groundwater flow during this sampling event was determined to be to the northeast in the southern portion of the Site and to the north in the central and northern portions of the Site. The approximate hydraulic gradient was approximately 6% on the southern portion of the Site and 22% in the central and northern portions of the Site.

Groundwater samples were collected from the monitoring wells using a peristaltic pump and low flow sampling methods. Purging took place at approximately 200 milliliters per minute. Each well was purged dry fairly quickly during this sampling event, and sample collection occurred following recharge. The groundwater samples were collected directly from the pump discharge tubing into laboratory-supplied pre-acidified sample containers.

Groundwater samples from the January 7, 2021 event were analyzed for VOCs via EPA Method 8260c. A duplicate sample and a trip blank was analyzed for VOCs. Samples were submitted to EAI for analysis.

The groundwater testing results were tabulated in comparison to the current VGES and I-Rule residential VI standards. Concentrations of MTBE, benzene, toluene, ethylbenzene, xylenes, trimethylbenzenes, and naphthalene in excess of the VGES were reported in MW-1. The laboratory detection limits were elevated in MW-1 due to the high contaminant concentrations in the sample. A naphthalene concentration in excess of the VGES was reported in MW-8. Concentrations of ethylbenzene and 1,3,5-trimethylbenzene below the VGES were reported in MW-2. A tabular summary

of the groundwater monitoring data and the laboratory report are included in Appendix D.

D. Supply Well Sampling

LEE collected a water sample from the on-Site shallow water supply well on December 3, 2020. The sample was collected from the pressure tank in the basement. The sample was submitted to EAI for analysis of VOCs via EPA Method 524.2. The water supply data generated during this SSI indicate that no VOCs were reported in the water supply sample. A tabular summary of the drinking water monitoring data and the laboratory report are included in Appendix D.

E. Soil Gas Sampling

Three soil gas (SG-2, -3, and -4), two sub-slab soil gas (VP-1 and VP-2), and an outdoor ambient air sample were obtained during the SSI. The soil vapor point locations are shown on the attached Site Map and Vapor Sampling Map. A sample could not be obtained from soil gas well SG-1 because it was impacted with groundwater on the day of sampling.

The soil gas wells were installed on December 21, 2020. An AMS stainless steel soil vapor point was installed at a depth of 4' bg at SG-1, SG-2, and SG-4. Bentonite clay was installed to approximately 1' bg and the boreholes were finished in a steel road box cemented flush with the ground. A length of nylon tubing was connected to the soil vapor point and extended to inside the road box and capped.

An AMS stainless steel soil vapor point was installed at a depth of 2' bg in SG-3, which is in the basement of the residence. A layer of clean sand was placed from the bottom of the borehole to 6" above the vapor point. Bentonite clay was installed to approximately 2" below the surface of the floor, and was then covered with cement. A length of nylon tubing was connected to the soil vapor point and extended to above the floor level and capped.

On January 2, 2021, LEE installed two VAPOR PINS® in $^{5}/_{8}$" penetrations of the garage floor slab. LEE made the penetrations using an electric rotary hammer drill and $^{5}/_{8}$" masonry drill bit. The VAPOR PINS® consist of $^{1}/_{4}$" ID x 3" brass fitting with a silicon seal. The VAPOR PINS® were pressed into the $^{5}/_{8}$" holes to create a tight seal around the pin.

Soil Gas Sample Collection

On January 2, 2021, LEE performed soil gas monitoring at the Site. Prior to performing the sampling, appropriate Quality Assurance / Quality Control (QA/QC) measures were taken to ensure that the samples collected from the soil gas wells were representative of the soil vapor and not the atmosphere above it. A clean

plastic shroud was placed over the soil gas wells and the atmosphere inside the shroud was saturated with helium tracer gas. A helium detector was attached to the soil gas well's outlet tubing. No helium above background was detected in the soil gas wells, which indicates no short circuiting from above grade was taking place. The VAPOR PINS® were water tested following installation to verify that no leakage was taking place around the pin.

Differential pressure measurements between the building interior air and the sub-slab environment were collected before and after the soil gas sampling using a UEI EM201B Electronic Manometer. The sampling points were screened prior to and following sampling with a PID. Following pre-purge measurements, approximately 1 liter of air was purged from each sampling point prior to sampling using a calibrated air pump at 200 ml/minute.

Following successful confirmation of adequate probe construction, soil gas samples were collected into 6-liter stainless steel Summa canisters with 2-hour regulators. The outdoor ambient air sample was collected simultaneously for comparison from outside the southeast corner of the residence, on the covered porch. Con-Test Analytical Laboratory of East Longmeadow, MA analyzed the soil gas samples via EPA Method TO-15. A tabular summary of the soil vapor monitoring data and the laboratory report are included in Appendix D.

Field Measurements

Field measurements collected during soil gas testing are summarized as follows.

Sample	VP-1	VP-2	SG-2	SG-3	SG-4	Ambient Air
PID Reading (start/finish)	0.1 ppm	0.1 ppm	0.1 ppm	0.1 ppm	0.1 ppm	0.1 ppm
	0.1 ppm	0.1 ppm	0.1 ppm	0.1 ppm	0.0 ppm	0.0 ppm
Diff. Pressure (start/finish)	0.0 pa/0.0 pa	0.0 pa/0.0 pa	-0.7 pa/0.0 pa	0.7 pa/0.5 pa	0.0/0.0 pa	N/A
Air Temp (start/finish)	39°F/37°F	39°F/37°F	27°F/28°F	39°F/37°F	27°F/28°F	27°F/28°F
Rel. Humidity (start/finish)	61%/72%	61%/72%	92%/88%	61%/72%	92%/88%	92%/88%

The weather was cloudy and cold, and no precipitation was noted during sample collection. The barometric pressure was 29.98" and falling during sampling.

Sample Collection/Laboratory Results

Several VOCs were reported in the soil gas samples. Tabular presentations of VOCs compared to DEC I-Rule VI Standards are included in Appendix D. The soil gas laboratory data are summarized as follows:

1. Five VOCs with VI standards were reported in one or more soil gas samples: benzene, carbon tetrachloride, ethylbenzene, methylene chloride, and tetrachloroethene (PCE). None of the reported concentrations exceeded residential standards
2. A number of VOCs without VI standards were reported in one or more soil gas samples. These include concentrations of acetone, ethanol, isopropanol, tetrahydrofuran, toluene, Freon 11, and xylenes were reported.

F. Other Media

No surface water, sediment, or indoor air testing was performed during this SSI.

G. Site-Specific Values

No site-specific values were proposed or generated during this SSI.

13.0 SITE-SPECIFIC RISK ASSESSMENT

No site-specific risk assessment was proposed or generated during this SSI.

14.0 MAPS

A Site location map, Site Map, Soil Vapor Sampling Map, Soil B(a)P TEQ Contaminant Map, Groundwater Contour Maps, Groundwater Contaminant Concentration Maps, and a current ANR Natural Resources Atlas map are attached.

15.0 DISCUSSION

A. Soil Sample Results

One of the objectives of the SSI was to delineate shallow soils impacted with PAHs on the Site. PAH TEQ in excess of the DEC's Statewide Urban Background concentration were identified in five of the soil samples obtained in the SSI (SB-102, SB-103, SB-104, SB-105, and SB-106). The northwestern, western, southern, and eastern portions of the impacted soil was identified by the SSI sampling. However, the northern-most soil samples contained PAHs above background, indicating the extent of the contamination continues to the north some distance. This is likely attributed to the historic storage of buses, auto parts, and other machinery in this area.

<u>Method 2 Cumulative Risk Assessment</u>

Method 2 Cumulative Risk Assessments (CRA) were performed for all shallow soil data without indicated exceedances of current residential soil standards, which

included SB-109 and SB-110. The results of the Method 2 CRA do not indicate an elevated carcinogenic or non-carcinogenic risk at those locations. Method 2 CRA tabulations are included in Appendix D.

B. Groundwater Sample Results

Another objective of the SSI was to further delineate VOC contamination detected in the groundwater beneath the Site. The SSI confirmed the majority of the contaminant plume remains near the former UST area on the southern portion of the Site. The magnitude of contamination in this area has decreased since the first sampling event in June 2020, but the contamination remains well above the VGES for MTBE, benzene, toluene, ethylbenzene, xylenes, trimethylbenzenes, and naphthalene.

The dissolved contamination plume extends to MW-2 to the north, MW-6 to the northwest, and MW-8 to the northeast. However, the contaminant concentrations are much lower in these locations, and no exceedances of the VGES were noted at these sampling locations except at MW-8. A fairly low level of naphthalene in exceedance of the VGES was noted at this sampling point.

Downgradient monitoring well MW-3, MW-4, and MW-5 do not appear to be impacted from the groundwater contaminant plume. Monitoring well MW-7, which was installed on the Westford Common is upgradient from the Site and did not have contaminant concentrations detected above laboratory reporting limits. Based on this information, the northern, western, and southern portions of the plume have been defined. The eastern edge of the plume is not fully defined, but it likely terminates in the vicinity of MW-8 based on the fairly low concentration of naphthalene reported there. Maps showing the dissolved-phase petroleum VOC contaminant concentrations are attached to this report.

C. Drinking Water Sample Results

The water supply data collected during this SSI indicate that no VOCs were reported in the water supply sample.

D. Soil Gas Sample Results

A third objective of the SSI was to determine if the VOCs in the groundwater plume were potentially impacting the indoor air of the existing residence, garage, and eastern portions of the Site. Several VOCs were reported in the soil gas samples including: benzene, carbon tetrachloride, ethylbenzene, methylene chloride, tetrachloroethene (PCE), acetone, ethanol, isopropanol, tetrahydrofuran, toluene, Freon 11, and xylenes. None of the reported concentrations exceeded residential VI standards. The results suggest that while VOCs were detected in all of the soil gas samples obtained, since none of these concentrations exceeded residential VI

standards, Site users are not likely to be impacted by these contaminants via vapor intrusion into the structures.

16.0 DATA PRESENTATION

LEE compiled current and previous analytical data for the Site in tabular format with comparisons to the current state and federal soil screening values presented in the I-Rule. These tables and the supporting laboratory data in Appendix D. Observations regarding the data and comparison to current screening values are presented in Section 12.

17.0 QA/QC SAMPLE RESULTS

LEE's quality assurance officer performed data validation on all field and laboratory data generated during the SSI, according to LEE's current generic QAPP (RFA 19093) and the approved SSQAPP Addendum dated November 12, 2020. The results are included in Appendix E and they indicate the field and laboratory data should be accepted without qualification.

18.0 INVESTIGATION DERIVED WASTE

Investigation-derived waste associated with this investigation included small amounts of soils generated during soil borings, and small volumes of purge water from the monitoring wells. All of the soils and groundwater generated were returned to the Site. No investigation-derived waste was left on-Site pending testing or disposal.

19.0 CONCLUSIONS AND RECOMMENDATIONS

LEE performed a SSI consisting of a soil, groundwater, drinking water, and soil gas evaluation. LEE has developed the following conclusions during the SSI.

- A geophysical investigation was conducted to investigate the area beneath Route 128 near the suspect pipe noted on the southern edge of the previous UST excavation on November 24, 2020. No evidence of a pipe or additional USTs were noted beneath Route 128 during the geophysical investigation.
- A confirmatory round of groundwater sampling was performed on December 3, 2020. The depth to water ranged from 2.86' bg at MW-1 to 8.62' bg at MW-5. The overall groundwater flow was directed to the north. The approximate hydraulic gradient was approximately 5% on the southern portion of the Site and 20% in the central and northern portions of the Site.
- A supply well sample was obtained on December 3, 2020. No VOCs were reported in the water supply sample.

- Concentrations of benzene, toluene, ethylbenzene, xylenes, trimethylbenzenes, and naphthalene in excess of the VGES were reported in the vicinity of the former UST location (MW-1). Ethylbenzene was reported in MW-2 below the VGES. No contaminant concentrations were reported above laboratory detection limits in MW-3, MW-4, or MW-5.
- Thirteen soil borings were advanced at the Site on December 21, 2020. Ten soil samples and a duplicate were obtained during drilling. Three additional groundwater monitoring wells, four soil gas wells, and two vapor pins were installed.
- PAH TEQ in excess of the DEC's Statewide Urban Background concentration were identified in five of the shallow soil samples obtained in this SSI (SB-102, SB-103, SB-104, SB-105, and SB-106). The western, southern, and eastern portions of the impacted soil was identified by the SSI sampling. However, the northern-most soil samples contained PAHs above background, indicating the extent of the contamination continues to the north some distance. The area of soils impacted is likely correlated to the historic storage of buses, auto parts, and other machinery in this area.
- An additional round of groundwater sampling, including the three newly installed monitoring wells, was performed on January 7, 2021. The depth to water ranged from 2.09' bg at MW-7 to 10.27' bg at MW-5. The overall groundwater flow during this sampling event was determined to be to the northeast in the southern portion of the Site and to the north in the central and northern portions of the Site. The approximate hydraulic gradient was approximately 6% on the southern portion of the Site and 22% in the central and northern portions of the Site.
- Concentrations of MTBE, benzene, toluene, ethylbenzene, xylenes, 1,2,3-trimethylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and naphthalene in excess of the VGES were reported in MW-1. Naphthalene concentrations in excess of the VGES were reported in MW-8. Concentrations of ethylbenzene and 1,3,5-trimethylbenzene below the VGES were reported in MW-2.
- The northern, western, and southern portions of the groundwater contaminant plume have been defined. The eastern edge of the plume is not fully defined, but it likely terminates in the vicinity of MW-8 based on the fairly low concentration of naphthalene reported there.
- Three soil gas, two sub-slab soil gas, and one outdoor ambient air sample were obtained on January 2, 2021. A soil gas sample could not be obtained from SG-1 due to a high groundwater aquifer in that area, which resulted in flooding in the soil gas well. The soil gas samples were analyzed for the presence of VOCs via EPA Method TO-15.
- Several VOCs were reported in the soil gas samples including: benzene, carbon tetrachloride, ethylbenzene, methylene chloride, tetrachloroethene (PCE), acetone, ethanol, isopropanol, tetrahydrofuran, toluene, Freon 11, and xylenes. None of the reported concentrations exceeded residential VI standards.

LEE has developed the following recommendations during this Phase II ESA:

- Groundwater monitoring should continue to be performed on an annual basis to track the groundwater contaminant plume at the Site.
- An evaluation of corrective action alternatives (ECAA) and a corrective action plan (CAP) should be prepared per the requirements of Subchapter 6 of the DEC's I-Rule.

20.0 SIGNATURE AND CERTIFICATION

"I certify under penalty of perjury that I am an environmental professional and that all content contained within this deliverable is to the best of my knowledge true and correct."

Angela Emerson, PG, Environmental Professional

21.0 MAPS AND APPENDICES

MAPS

Site Location Map
Site Map
ANR Atlas Map
Soil Vapor Sample Map
Soil Contaminant Map - B(a)P TEQ
Groundwater Contour Map (December 3, 2020)
Groundwater Contour Map (January 7, 2021)
Groundwater Contaminant Concentration Map (December 3, 2020)
Groundwater Contaminant Concentration Map (January 7, 2021)

APPENDICES

A. Standard Operating Procedures
B. Soil Boring and Monitoring Well Logs
C. Photographic Documentation
D. Groundwater Elevation Tables and Laboratory Analytical Results
E. Data Validation Report
F. Field Notes

MAPS

Site Location Map
Site Map
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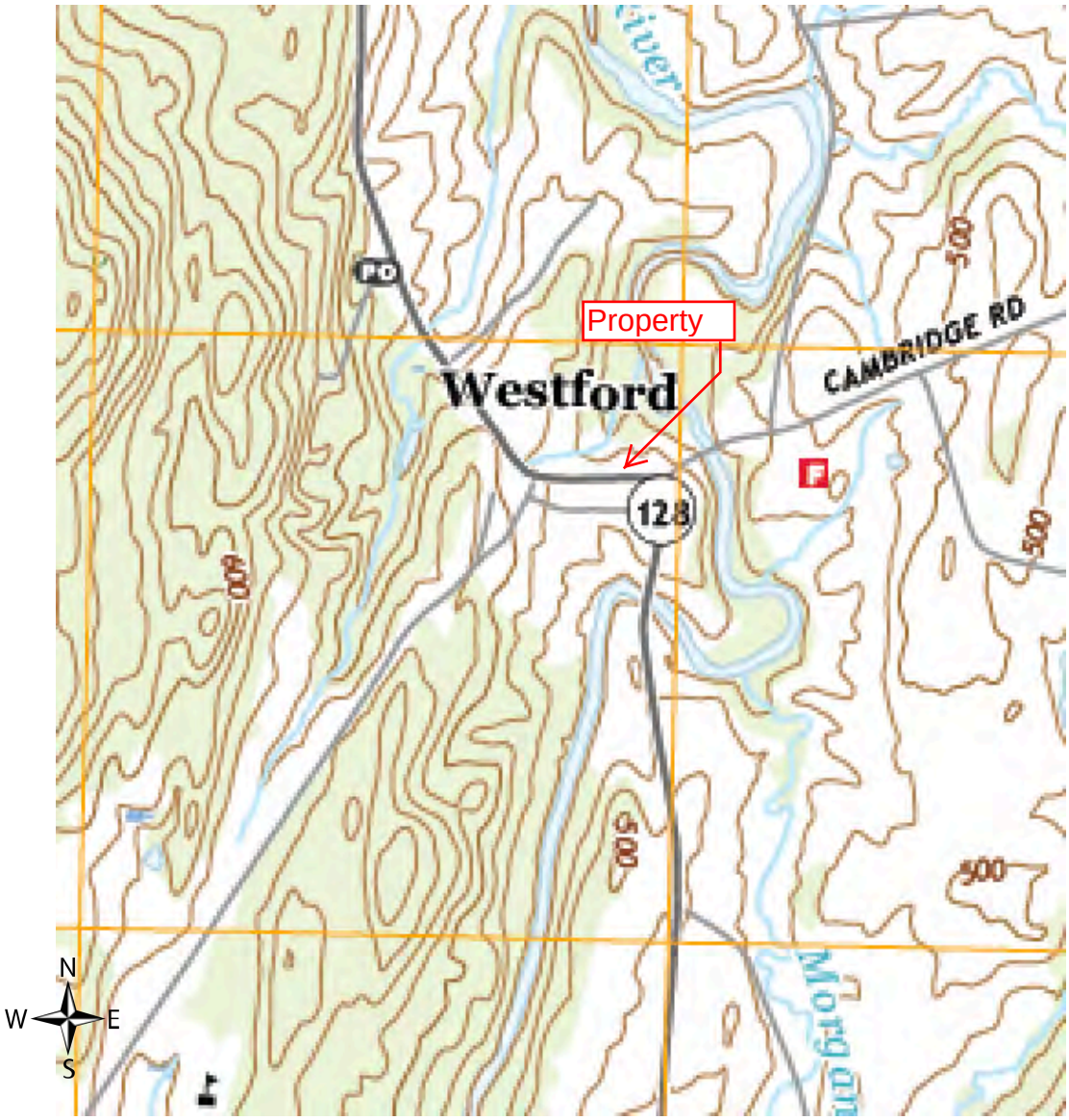
Groundwater Contour Map (December 3, 2020)
Groundwater Contour Map (January 7, 2021)
Groundwater Contaminant Concentration Map (December 3, 2020)
Groundwater Contaminant Concentration Map (January 7, 2021)



1705 Route 128
Westford, Vermont

LE·Environmental

Site Location Map

LEE# 19-139
Date: September 6, 2019
Source: USGS Store

LEE
LE·Environmental
21 North Main Street Unit #1
Waterbury, Vermont
Phone: 802-917-2001
www.leenv.net

Site Map
Pigeon Property
1705 Route 128
Westford, Vermont

Legend
- Soil Boring
- Monitoring Well
- Soil Gas Well
- Sub-Slab Vapor Pin
- Supply Well
- Drain Line
- Former Gas UST

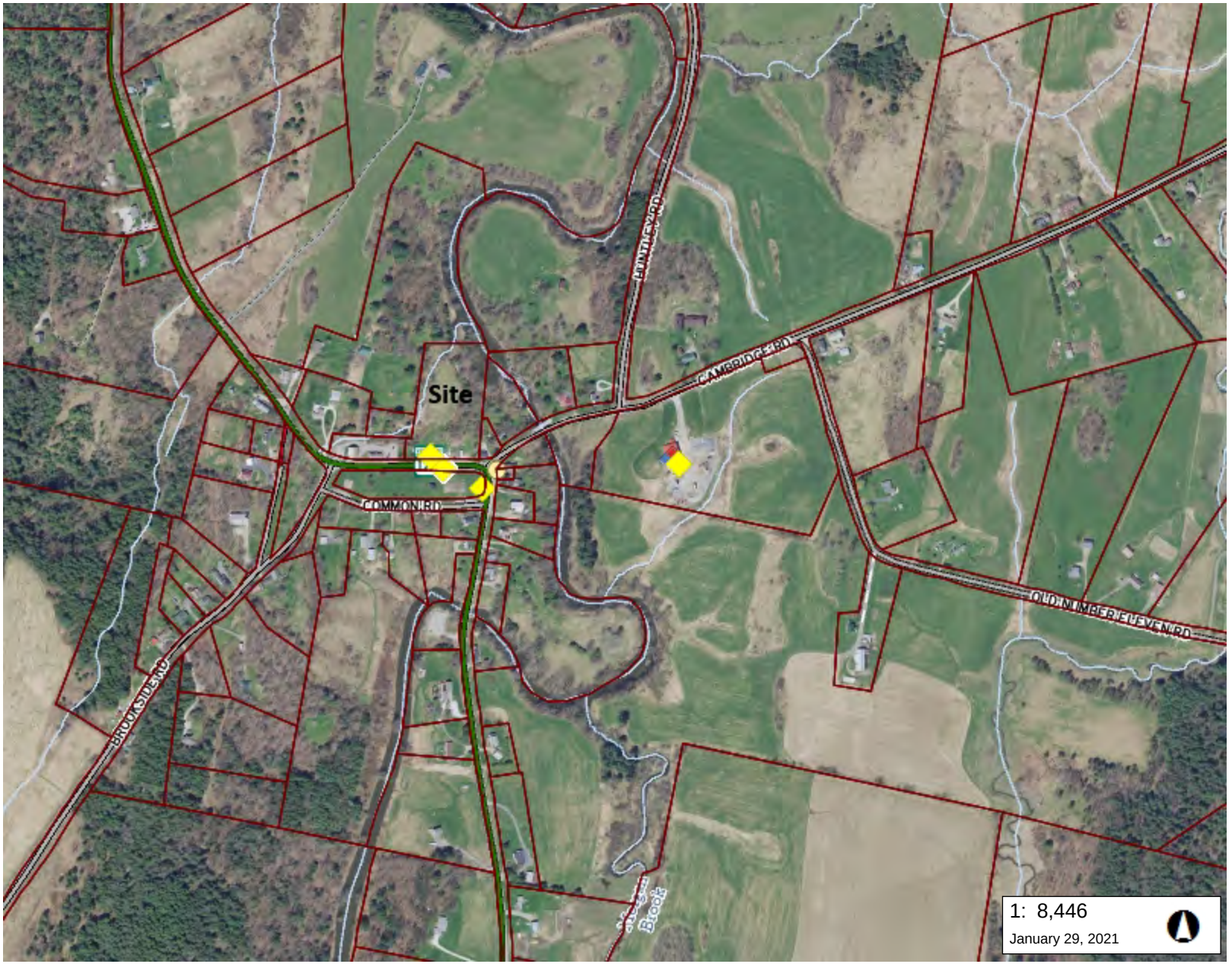
Drawing Date: 2/1/21
LEE Project #: 19-138

VERMONT

Pigeon Property

Vermont Agency of Natural Resources

vermont.gov



LEGEND

PFAS Results (Waste Manage
- Hazsite, Non-Detect
- Hazsite, Below Standard
- Hazsite, Detected-No Standards
- Hazsite, Above Standard
- Residuals, Non-Detect
- Residuals, Below Standard
- Residuals, Detected-No Standards
- Residuals, Above Standard
- Solid Waste, Non-Detect
- Solid Waste, Below Standard
- Solid Waste, Detected-No Standarc
- Solid Waste, Above Standard
- Waste Water, Non Detect
- Waste Water, Below Standard
- Waste Water, Detected-No Standar
- Waste Water, Above Standard

Hazardous Site
Hazardous Waste Generators
Brownfields
Salvage Yard
Aboveground Storage Tank
Underground Storage Tank (w
Dry Cleaner
Parcels (standardized)
Roads
- Interstate

NOTES

Map created using ANR's Natural Resources Atlas

429.0 0 214.00 429.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 704 Ft. 1cm = 84 Meters

THIS MAP IS NOT TO BE USED FOR NAVIGATION

LEE
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21 North Main Street Unit #1
Waterbury, Vermont
Phone: 802-917-2001
www.leenv.net

Vapor Sampling Map
Pigeon Property
1705 Route 128
Westford, Vermont

Legend
- Soil Gas Well
- Sub-Slab Vapor Pin
- Ambient Air Sample
- Supply Well
- Drain Line
- Former Gas UST

Drawing Date: 2/1/21
LEE Project #: 19-138

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Shallow Soil Contaminant Map
B[a]P TEQ
Pigeon Property
1705 Route 128
Westford, Vermont

Legend
- Soil boring/soil sample with B[a]P TEQ concentrations reported in (mg/kg) Exceedance of VT urban background in bold
- Former gasoline UST

Sample Dates: 6/2, 6/5, 12/21/20
Drawing Date: 2/1/21
LEE Project #: 19-138

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Groundwater Contour Map
Pigeon Property
1705 Route 128
Westford, Vermont
LEE Project # 19-138

Legend
- Soil Boring
- Monitoring well-elevations in feet
- Arrow denotes approximate groundwater flow
- B Benchmark 100'

Measure Date: 12/3/20
Drawing Date: 2/1/20

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Groundwater Contour Map
Pigeon Property
1705 Route 128
Westford, Vermont
LEE Project # 19-138

Legend
- Soil Boring
- Monitoring well-elevations in feet
- Arrow denotes approximate groundwater flow
- B Benchmark 100'

Measure Date: 1/7/21
Drawing Date: 2/1/20

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Groundwater Contaminant Concentration Map
Pigeon Property
1705 Route 128
Westford, Vermont
LEE Project # 19-138

Legend
GW Monitoring Well with total VOCs concentrations (ug/L)
Regulatory exceedances in call-out boxes
ND = Non-Detect
Sampled via EPA Method 8260 VT Petroleum List
Sample Date: 12/3/20
Drawing Date: 2/1/21

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Waterbury, Vermont
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www.leenv.net

Groundwater Contaminant Concentration Map
Pigeon Property
1705 Route 128
Westford, Vermont
LEE Project # 19-138

Legend
GW Monitoring Well with total VOCs concentrations (ug/L)
Regulatory exceedances in call-out boxes
ND = Non-Detect
Sampled via EPA Method 8260 VT Petroleum List
Sample Date: 1/7/21
Drawing Date: 2/1/21

APPENDIX A

Standard Operating Procedures

Field Standard Operating Procedures used during this work:

- LEE SOP A: Soil Sampling
- LEE SOP B: Soil Borings, Groundwater Monitoring Well Installation and Low flow groundwater sampling
- LEE SOP C: Vapor Pin and Soil Gas Well Installation and Sampling
- LEE SOP E: Sample Handling
- LEE SOP F: PID Operation
- LEE SOP G: pH Conductivity and Temperature Meter Operation
- LEE SOP I: Electronic Water Level Measurement Operation
- LEE SOP L: Drinking Water Sampling

APPENDIX B

Monitoring Well and Soil Boring Logs

SOIL BORING LOG/GROUNDWATER MONITORING WELL COMPLETION DIAGRAM SHEET 1 OF 1

LEE Environmental

1705 Route 128, Westford, Vermont

December 21, 2020 DRILLER T&K Drilling

LEE Project # 19-138 ON-SITE REP. Angela Emerson

BORING NO. / WELL NO. SB-101 / MW-6

TOP OF CASING ELEVATION 99.99

REFUSAL: DEPTH Not Encountered

TOP OF ROCK: DEPTH Not Encountered

BOTTOM OF HOLE DEPTH: DEPTH 12 FT.

BORING ADVANCED BY: GEOPROBE

WATER LEVEL DATA (IF APPLICABLE)

COMPLETION: DEPTH 6 FT.

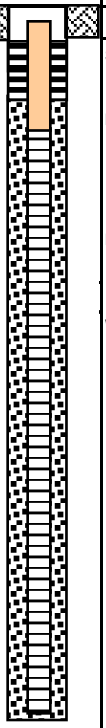
ELEV. 94 FT.

MONITOR DATE: DEPTH 3.80 FT.

1/7/21 ELEV. 96.19 FT.

STRATUM DEPTH FT.	STRATUM DEPTH ELEV.	STRATUM DESCRIPTION	PENETRATION/ RECOVERY (")	FIELD RESULTS Blow Counts	FIELD RESULTS PID (ppm)
0.0	100.0	Silty Sand (SM): dry to moist, medium brown, fine to medium sand with silt.	36/36	N/A	0.1
3.0	97.0				
		Lean Clay (CL): moist, light to medium brown, clay.	36/36	N/A	0.1
6.0	94.0				
		Lean Clay (CL): moist to wet, light brown, clay.	36/36	N/A	0.2
9.0	91.0				
		Lean Clay (CL): moist to wet, medium brown, clay.	36/36	N/A	0.1
12.0	88.0				

WELL DESIGN



WELL CONSTRUCTION DETAILS

SOIL SAMPLING DETAILS

STEEL ROADBOX FLUSH MOUNTED IN CEMENT

BENTONITE SEALS 0.5-1.5' BG

1" PVC RISER 0.5-2' BG

DRILLERS SAND 1.5-12' BG

10' LENGTH OF 0.010 SLOT PVC PLASTIC WELL SCREEN 2-12' BG

SOIL BORING LOG/GROUNDWATER MONITORING WELL COMPLETION DIAGRAM SHEET 1 OF 1

LEE Environmental

1705 Route 128, Westford, Vermont

December 21, 2020 DRILLER T&K Drilling

LEE Project # 19-138 ON-SITE REP. Angela Emerson

BORING NO. / WELL NO. SB-111 / MW-7

TOP OF CASING ELEVATION 100.30

REFUSAL: DEPTH Not Encountered

TOP OF ROCK: DEPTH Not Encountered

BOTTOM OF HOLE DEPTH: DEPTH 12 FT.

BORING ADVANCED BY: GEOPROBE

WATER LEVEL DATA (IF APPLICABLE)

COMPLETION: DEPTH 3 FT.

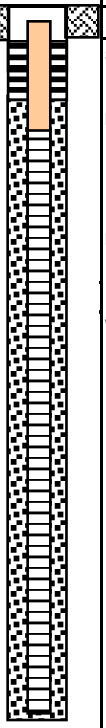
ELEV. 97 FT.

MONITOR DATE: DEPTH 2.09 FT.

1/7/21 ELEV. 98.21 FT.

STRATUM DEPTH FT.	STRATUM DEPTH ELEV.	STRATUM DESCRIPTION	PENETRATION/ RECOVERY (")	FIELD RESULTS Blow Counts	FIELD RESULTS PID (ppm)
0.0	100.3	Silty Sand (SM): dry to wet, medium brown, fine to medium sand, some silt.	36/36	N/A	0.0
3.0	97.3				
		Lean Clay (CL): wet, light to medium brown, clay.	36/27	N/A	0.0
6.0	94.3				
		Lean Clay (CL): wet, gray/brown, clay with fine sand layers.	36/36	N/A	0.0
9.0	91.3				
		Lean Clay (CL): wet, gray/brown, clay with fine sand layers.	36/24	N/A	0.0
12.0	88.3				

WELL DESIGN



WELL CONSTRUCTION DETAILS

SOIL SAMPLING DETAILS

STEEL ROADBOX FLUSH MOUNTED IN CEMENT

BENTONITE SEALS 0.5-1.5' BG

1" PVC RISER 0.5-2' BG

DRILLERS SAND 1.5-12' BG

10' LENGTH OF 0.010 SLOT PVC PLASTIC WELL SCREEN 2-12' BG

SOIL BORING LOG/GROUNDWATER MONITORING WELL COMPLETION DIAGRAM SHEET 1 OF 1

LEE Environmental

1705 Route 128, Westford, Vermont

December 21, 2020 DRILLER T&K Drilling

LEE Project # 19-138 ON-SITE REP. Angela Emerson

BORING NO. / WELL NO. SB-107 / MW-8

TOP OF CASING ELEVATION 98.37

REFUSAL: DEPTH Not Encountered

TOP OF ROCK: DEPTH Not Encountered

BOTTOM OF HOLE DEPTH: DEPTH 12 FT.

BORING ADVANCED BY: GEOPROBE

WATER LEVEL DATA (IF APPLICABLE)

COMPLETION: DEPTH 6 FT.

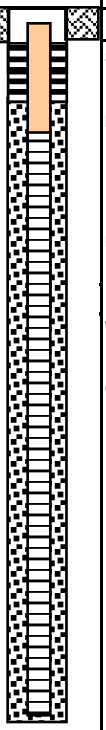
ELEV. 92 FT.

MONITOR DATE: DEPTH 6.31 FT.

1/7/21 ELEV. 92.06 FT.

STRATUM DEPTH FT.	STRATUM DEPTH ELEV.	STRATUM DESCRIPTION	PENETRATION/ RECOVERY (")	FIELD RESULTS Blow Counts	FIELD RESULTS PID (ppm)
0.0	98.4	Silty Sand (SM): dry, medium brown and gray, fine to coarse sand, some silt, trace gravel. Car parts noted in top 2'	36/36	N/A	0.2
3.0	95.4				
		Lean Clay (CL): dry to moist, gray, clay with fine to medium sand.	36/21	N/A	0.1
6.0	92.4				
		Lean Clay (CL): moist, gray, clay with fine to medium sand.	36/28	N/A	0.1
9.0	89.4				
		Lean Clay (CL): moist, medium brown, clay with fine to medium sand.	36/28	N/A	0.1
12.0	86.4				

WELL DESIGN



WELL CONSTRUCTION DETAILS

SOIL SAMPLING DETAILS

STEEL ROADBOX FLUSH MOUNTED IN CEMENT

BENTONITE SEALS 0.5-1.5' BG

1" PVC RISER 0.5-2' BG

DRILLERS SAND 1.5-12' BG

10' LENGTH OF 0.010 SLOT PVC PLASTIC WELL SCREEN 2-12' BG

COLLECTED SOIL SAMPLE SB-107 FROM 0-1.5' BG

Brownfields Supplemental Site Assessment
Pigeon Property
Westford, Vermont
Soil Boring Table

Soil Boring ID	Run Depth (ft bg)	PID Reading (ppm)	Description	Notes
SB-101	0-3	0.1	Silty Sand (SM): dry to moist, medium brown, fine to medium sand with silt	Collected SB-101 0-18" bg
	3-6	0.1	Lean Clay (CL): moist, light to medium brown, clay	
	6-9	0.2	Lean Clay (CL): moist to wet, light brown, clay	
	9-12	0.1	Lean Clay (CL): moist to wet, medium brown, clay	Installed MW-6 12' bg
SB-102	0-1.5	0.1	Silty Sand (SM): dry, medium brown, fine to coarse sand, some silt	Collected SB-102 0-18" bg
SB-103	0-1.5	0.0	Silty Sand (SM): dry, medium brown, fine to coarse sand, some silt, trace gravel	Collected SB-103 0-18" bg
SB-104	0-1.5	0.1	Silty Sand (SM): dry, medium brown and black, fine to coarse sand, some silt, trace gravel	Collected SB-104 0-18" bg
SB-105	0-1.5	0.1	Silty Sand (SM): dry, medium brown, fine to coarse sand, some silt, trace gravel	Collected SB-105 0-18" bg
SB-106	0-3	0.1	Silty Sand (SM): dry, medium brown, fine to coarse sand, some silt, trace gravel	Collected SB-106 0-18" bg
	3-5	0.1	Silty Sand (SM): dry, medium brown, fine to coarse sand, some silt, trace gravel	Installed SG-2 at 4' bg
SB-107	0-3	0.2	Silty Sand (SM): dry, medium brown and gray, fine to coarse sand, some silt, trace gravel. Car parts noted in top 2'	Collected SB-107 0-18" bg
	3-6	0.1	Lean Clay (CL): dry to moist, gray, clay with fine to medium sand.	
	6-9	0.1	Lean Clay (CL): moist, gray, clay with fine to medium sand.	
	9-12	0.1	Lean Clay (CL): moist, medium brown, clay with fine to medium sand.	Installed MW-8 12' bg
SB-108	0-1.5	0.1	Silty Sand (SM): dry, medium brown, fine to coarse sand, some silt	Collected SB-108 0-18" bg
SB-109	0-3	0.1	Silty Sand (SM): dry, medium brown, fine to coarse sand, some silt, trace gravel	Collect SB-109 0-18" bg
	3-5	0.1	Silty Sand (SM): dry, medium brown, fine to coarse sand, some silt	Installed SG-4 at 4' bg
SB-110	0-1.5	0.2	Silty Sand (SM): dry, medium brown, fine to coarse sand, some silt	Collected SB-110 0-18" bg
SB-111	0-3	0.0	Silty Sand (SM): dry to wet, medium brown, fine to medium sand, some silt	
	3-6	0.0	Lean Clay (CL): wet, light to medium brown, clay	
	6-9	0.0	Lean Clay (CL): wet, gray/brown, clay with fine sand layers	
	9-12	0.0	Lean Clay (CL): wet, gray/brown, clay with fine sand layers	Installed MW-7 12' bg
SB-112	0-3	0.1	Silty Sand (SM): dry, medium brown, fine to coarse sand, some silt	
	3-5	0.1	Lean Clay (CL): wet, medium brown, clay with fine sand layers	Installed SG-1 at 4' bg
SB-113	0-2	0.1	Silty Sand (SM): dry, medium brown, fine to coarse sand, some silt	Installed SG-3 at 2' bg

APPENDIX C

Photographic Documentation

Photographic Documentation
Phase II Environmental Site Assessment
1705 Route 128
Westford, Vermont
LEE #19-138

Photograph ID: 001 Date: November 24, 2020 Location: Southern portion of Site Direction: Looking east Comments: Geophysical investigation to assess unknown pipe found during UST removal	
Photograph ID: 002 Date: December 21, 2020 Location: Westford Common Direction: Looking south Comments: Installation of MW-7	

Photographic Documentation
Phase II Environmental Site Assessment
1705 Route 128
Westford, Vermont
LEE #19-138

Photograph ID: 003 Date: December 21, 2020 Location: Between residence and garage Direction: Looking north Comments: Installation of MW-6	
Photograph ID: 004 Date: December 21, 2020 Location: Eastern portion of the Site Direction: Looking west Comments: Installation of MW-8	

Photographic Documentation
Phase II Environmental Site Assessment
1705 Route 128
Westford, Vermont
LEE #19-138

Photograph ID: 005 Date: June 5, 2020 Location: East of garage Direction: Looking south Comments: Installing SG-2	
Photograph ID: 006 Date: June 5, 2020 Location: Eastern portion of Site Direction: Looking south Comments: Installing SG-4	

APPENDIX D

Groundwater Elevation Tables
Laboratory Analytical Results

Liquid Level Monitoring Data
Brownfields Phase II ESA
Pigeon Property
1705 Route 128
Westford, Vermont

Measurement Date: December 3, 2020

Well I.D.	Top of Casing Elevation	Depth To Product btoc	Depth To Water btoc	Product Thickness	Specific Gravity Of Product	Water Equivalent	Corrected Depth To Water	Corrected Water Table Elevation
MW-1	99.22	-	2.86	-	-	-	-	96.36
MW-2	99.74	-	5.81	-	-	-	-	93.93
MW-3	99.03	-	4.70	-	-	-	-	94.33
MW-4	98.68	-	5.09	-	-	-	-	93.59
MW-5	81.18	-	8.62	-	-	-	-	72.56

Notes:
All Values Reported in Feet
btoc - Below Top of Casing
Elevation data relative to 100' at SE corner of garage

Brownfields Phase II ESA
Pigeon Property
1705 Route 128
Westford, Vermont

Measurement Date: January 7, 2021

Well I.D.	Top of Casing Elevation	Depth To Product btoc	Depth To Water btoc	Product Thickness	Specific Gravity Of Product	Water Equivalent	Corrected Depth To Water	Corrected Water Table Elevation
MW-1	99.22	-	3.57	-	-	-	-	95.65
MW-2	99.74	-	6.19	-	-	-	-	93.55
MW-3	99.03	-	9.37	-	-	-	-	89.66
MW-4	98.68	-	7.25	-	-	-	-	91.43
MW-5	81.18	-	10.27	-	-	-	-	70.91
MW-6	99.99	-	3.80	-	-	-	-	96.19
MW-7	100.30	-	2.09	-	-	-	-	98.21
MW-8	98.37	-	6.31	-	-	-	-	92.06

Notes:
All Values Reported in Feet
btoc - Below Top of Casing
Elevation data relative to 100' at SE corner of garage

Brownfields Supplemental Site Assessment
Groundwater Sampling Data Summary
Pigeon Property
1705 Route 128, Westford, Vermont

Groundwater Sample	*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*Duplicate*	I-Rule Groundwater Vapor Intrusion Standard-Resident (ug/l)	Vermont Groundwater Enforcement Standard (ug/l)
Depth to Groundwater (Ft)	*2.86*	*5.81*	*4.70*	*5.09*	*8.62*	*5.81*		
pH (standard units)	*7.24*	*6.78*	*6.87*	*6.68*	*6.52*	*6.78*		
Conductivity (umhos)	*2,390*	*473*	*1,242*	*866*	*416*	*473*		
Temperature (celcius)	*8.2*	*10.3*	*9.6*	*9.4*	*8.8*	*10.3*		
Turbidity (n.t.u.)	*711*	*749*	*13.4*	*106*	*550*	*749*		
Sample Date	*12/3/20*	*12/3/20*	*12/3/20*	*12/3/20*	*12/3/20*	*12/3/20*		
VOCs, EPA Method 8260c VT Petroleum List (ug/l)								
Methyl-t-butyl ether (MTBE)	ND<200	ND<1	ND<1	ND<1	ND<1	ND<1	-	11
Benzene	**4,900.**	ND<1	ND<1	ND<1	ND<1	ND<1	0.92	5
1,2-Dichloroethane	ND<200	ND<1	ND<1	ND<1	ND<1	ND<1	-	5
Toluene	**15,000**	ND<1	ND<1	ND<1	ND<1	ND<1	-	1000
1,2-Dibromoethane(EDB)	ND<100	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	0.05
Ethylbenzene	**2,500**	**1.5**	ND<1	ND<1	ND<1	**1.4**	2.2	700
mp-Xylene	**12,000**	ND<1	ND<1	ND<1	ND<1	ND<1	-	10000**
o-Xylene	**5,700**	ND<1	ND<1	ND<1	ND<1	ND<1	-	10000**
1,3,5-trimethylbenzene	**880**	ND<1	ND<1	ND<1	ND<1	ND<1	330	23*
1,2,4-trimethylbenzene	**3,300**	ND<1	ND<1	ND<1	ND<1	ND<1	470	23*
1,2,3-trimethylbenzene	**950**	ND<1	ND<1	ND<1	ND<1	ND<1	790	23*
Naphthalene	**710**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	4	0.5
Total Reported VOCs	**45,940**	**1.5**	ND	ND	ND	**1.4**		

NOTES:
Groundwater Enforcement Standard from Vermont Groundwater Protection Rule 7/19
Groundwater Vapor Intrusion Standards from Vermont I-Rule 7/19
Reported results or reporting limits equal to or in excess of regulatory criteria are shaded.
Dashed Cell - no standard
* means total trimethylbenzenes ** means total xylenes

Brownfields Supplemental Site Assessment
Groundwater Sampling Data Summary
Pigeon Property
1705 Route 128, Westford, Vermont

Groundwater Sample	*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*MW-7*	*MW-8*	*Duplicate*	I-Rule Groundwater Vapor Intrusion Standard-Resident (ug/l)	Vermont Groundwater Enforcement Standard (ug/l)
Depth to Groundwater (Ft)	*3.57*	*6.19*	*9.37*	*7.25*	*10.27*	*3.80*	*2.09*	*6.31*	*6.19*		
pH (standard units)	*7.11*	*6.75*	*6.95*	*6.55*	*6.84*	*6.73*	*7.11*	*6.82*	*6.75*		
Conductivity (umhos)	*3,430*	*497*	*1,502*	*741*	*809*	*812*	*1,268*	*4,510*	*497*		
Temperature (celcius)	*5.6*	*7.3*	*8.2*	*8.7*	*6.6*	*6.3*	*6.5*	*6.9*	*7.3*		
Turbidity (n.t.u.)	*635*	*814*	*119*	*81.9*	*604*	*853*	*NR*	*520*	*814*		
Sample Date	*1/7/21*	*1/7/21*	*1/7/21*	*1/7/21*	*1/7/21*	*1/7/21*	*1/7/21*	*1/7/21*	*1/7/21*		
VOCs, EPA Method 8260c (ug/l)											
Dichlorodifluoromethane	ND<200	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	-	-
Chloromethane	ND<200	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	-	-
Vinyl Chloride	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	0.13	2
Bromomethane	ND<200	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	-	5
Chloroethane	ND<200	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	31,000	
Trichlorofluoromethane	ND<200	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	-	-
Diethyl Ether	ND<200	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	-	-
Acetone	ND<1000	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	-	950
1 ,1-Dichloroethene	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	7
Methylene chloride	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	680	5
Carbon disulfide	ND<200	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	-	-
Methyl-t-butyl ether (MTBE)	**290**	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	11
trans-1,2-Dichloroethene	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	100
1,1-Dichloroethane	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	270	70
2,2-Dichloropropane	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	-
cis-1,2-Dichloroethene	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	70
2-Butanone(MEK)	ND<1,000	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	-	511
Bromochloromethane	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	8
Tetrahydrofuran(THF)	ND<1,000	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	-	-
Chloroform	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	0.41	-
1,1,1-Trichloroethane	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	200
Carbon tetrachloride	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	0.24	5
1 ,1-Dichloropropene	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	-
Benzene	**5,900**	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	0.92	5
1,2-Dichloroethane	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	5
Trichloroethene (TCE)	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	0.82	5
1,2-Dichloropropane	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	5
Dibromomethane	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	-
Bromodichloromethane	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-
4-Methyl-2-pentanone(MIBK)	ND<1,000	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	-	-
cis-1,3-Dichloropropene	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-
Toluene	**19,000**	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	1000
trans-1,3-Dichloropropene	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-
1,1,2-Trichloroethane	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	5
2-Hexanone	ND<1,000	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	-	-
Tetrachloroethene (PCE)	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	1.5	5
1,3-Dichloropropane	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	-

NOTES:
Groundwater Enforcement Standard from Vermont Groundwater Protection Rule 7/19
Groundwater Vapor Intrusion Standards from Vermont I-Rule 7/19
Reported results or reporting limits equal to or in excess of regulatory criteria are shaded.
Dashed Cell - no standard
NR = no reading due to meter capabilty

Brownfields Supplemental Site Assessment
Groundwater Sampling Data Summary
Pigeon Property
1705 Route 128, Westford, Vermont

Groundwater Sample	*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*MW-7*	*MW-8*	*Duplicate*	I-Rule Groundwater Vapor Intrusion Standard-Resident (ug/l)	Vermont Groundwater Enforcement Standard (ug/l)
Depth to Groundwater (Ft)	*3.57*	*6.19*	*9.37*	*7.25*	*10.27*	*3.80*	*2.09*	*6.31*	*6.19*		
pH (standard units)	*7.11*	*6.75*	*6.95*	*6.55*	*6.84*	*6.73*	*7.11*	*6.82*	*6.75*		
Conductivity (umhos)	*3,430*	*497*	*1,502*	*741*	*809*	*812*	*1,268*	*4,510*	*497*		
Temperature (celcius)	*5.6*	*7.3*	*8.2*	*8.7*	*6.6*	*6.3*	*6.5*	*6.9*	*7.3*		
Turbidity (n.t.u.)	*635*	*814*	*119*	*81.9*	*604*	*853*	*NR*	*520*	*814*		
Sample Date	*1/7/21*	*1/7/21*	*1/7/21*	*1/7/21*	*1/7/21*	*1/7/21*	*1/7/21*	*1/7/21*	*1/7/21*		
VOCs, EPA Method 8260c (ug/l)											
Dibromochloromethane	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	-
1,2-Dibromoethane(EDB)	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	0.05
Chlorobenzene	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	100
1,1,1,2-Tetrachloroethane	ND<100	ND<1	ND<2	ND<2	ND<2	ND<1	ND<2	ND<2	ND<1	-	70
Ethylbenzene	**2,900**	**2**	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	**2.1**	2.2	700
mp-Xylene	**15,000**	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	10000**
o-Xylene	**6,800**	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	10000**
Styrene	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	100
Bromoform	ND<200	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	-	-
IsoPropylbenzene	**120**	ND<1	ND<1	ND<1	ND<1	**1.1**	ND<1	ND<1	ND<1	-	-
Bromobenzene	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	-
1,1,2,2-Tetrachloroethane	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	-
1,2,3-Trichloropropane	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	0.02
n-Propylbenzene	**350**	ND<1	ND<1	ND<1	ND<1	**2.3**	ND<1	ND<1	ND<1	-	-
2-Chlorotoluene	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	-
4-Chlorotoluene	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	-
1,3,5-trimethylbenzene	**1,000**	**1**	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	**1.1**	330	23*
tert-Butylbenzene	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	**1.2**	-	-
1,2,4-trimethylbenzene	**4,300**	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	470	23*
sec-Butylbenzene	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	**1.2**	-	-
1,3-Dichlorobenzene	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	600
1,2,3-Trimethylenzene	**1,100**	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	790	23*
p-Isopropyltoluene	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	-
1,4-Dichlorobenzene	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	75
1,2-Dichlorobenzene	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	600
n-Butylbenzene	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	-
1,2-Dibromo-3-chloropropane	ND<20	ND<0.2	ND<0.2	ND<0.2	ND<0.2	ND<0.2	ND<0.2	ND<0.2	ND<0.2	-	0.2
1,2,4-Trichlorobenzene	ND<100	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	-	70
Hexachlorobutadiene	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-
Naphthalene	**690**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**2.9**	ND<0.5	4	0.5
1,2,3-Trichlorobenzene	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	0.9
Total Reported VOCs	**57,450**	**3**	ND	ND	ND	**3.4**	ND	**2.9**	**5.6**		

NOTES:
Groundwater Enforcement Standard from Vermont Groundwater Protection Rule 7/19
Groundwater Vapor Intrusion Standards from Vermont I-Rule 7/19
Reported results or reporting limits equal to or in excess of regulatory criteria are shaded.
Dashed Cell - no standard
* means total trimethylbenzenes ** means total xylenes
NR = no reading due to meter capabilty

Brownfields Supplemental Site Assessment
Groundwater Sampling Data Summary
Pigeon Property
1705 Route 128, Westford, Vermont

MW-1

				I-Rule Groundwater Vapor Intrusion Standard-Resident (ug/l)	Vermont Groundwater Enforcement Standard (ug/l)
Depth to Groundwater (Ft)	*4.45*	*2.86*	*3.57*		
pH (standard units)	*6.27*	*7.24*	*7.11*		
Conductivity (umhos)	*7,460*	*2,390*	*3,430*		
Temperature (celcius)	*16.0*	*8.2*	*5.6*		
Turbidity (n.t.u.)	*138*	*711*	*635*		
Sample Date	*6/17/20*	*12/3/20*	*1/7/21*		
VOCs, EPA Method 8260c (ug/l)					
Methyl-t-butyl ether (MTBE)	**2,100**	ND<200	**290**	-	11
Benzene	**14,000.**	**4,900.**	**5,900**	0.92	5
1,2-Dichloroethane	ND<100	ND<200	ND<100	-	5
Toluene	**34,000**	**15,000**	**19,000**	-	1000
1,2-Dibromoethane(EDB)	ND<50	ND<100	ND<50	-	0.05
Ethylbenzene	**3,900**	**2,500**	**2,900**	2.2	700
mp-Xylene	**13,000**	**12,000**	**15,000**	-	10000**
o-Xylene	**6,000**	**5,700**	**6,800**	-	10000**
1,3,5-trimethylbenzene	**770**	**880**	**1,000**	330	23*
1,2,4-trimethylbenzene	**2,900**	**3,300**	**4,300**	470	23*
1,2,3-trimethylbenzene	NT	**950**	**1,100**	790	23*
Naphthalene	**640**	**710**	**690**	4	0.5
Total Reported VOCs	**77,310**	**45,940**	**56,980**		

MW-2

				I-Rule Groundwater Vapor Intrusion Standard-Resident (ug/l)	Vermont Groundwater Enforcement Standard (ug/l)
Depth to Groundwater (Ft)	*6.26*	*5.81*	*6.19*		
pH (standard units)	*6.41*	*6.78*	*6.75*		
Conductivity (umhos)	*520*	*473*	*497*		
Temperature (celcius)	*12.3*	*10.3*	*7.3*		
Turbidity (n.t.u.)	*173*	*749*	*814*		
Sample Date	*6/17/20*	*12/3/20*	*1/7/21*		
VOCs, EPA Method 8260c (ug/l)					
Methyl-t-butyl ether (MTBE)	ND<1	ND<1	ND<1	-	11
Benzene	**1.3**	ND<1	ND<1	0.92	5
1,2-Dichloroethane	ND<1	ND<1	ND<1	-	5
Toluene	**1.1**	ND<1	ND<1	-	1000
1,2-Dibromoethane(EDB)	ND<0.5	ND<0.5	ND<0.5	-	0.05
Ethylbenzene	**9.4**	**1.5**	**2**	2.2	700
mp-Xylene	**18**	ND<1	ND<1	-	10000**
o-Xylene	**2**	ND<1	ND<1	-	10000**
1,3,5-trimethylbenzene	**7.1**	ND<1	**1**	330	23*
1,2,4-trimethylbenzene	**22**	ND<1	ND<1	470	23*
1,2,3-trimethylbenzene	NT	ND<1	ND<1	790	23*
Naphthalene	**5.3**	ND<0.5	ND<0.5	4	0.5
Total Reported VOCs	**66**	**1.5**	**3**		

NOTES:
Groundwater Enforcement Standard from Vermont Groundwater Protection Rule 7/19
Groundwater Vapor Intrusion Standards from Vermont I-Rule 7/19
Reported results or reporting limits equal to or in excess of regulatory criteria are shaded.
Dashed Cell - no standard
* means total trimethylbenzenes ** means total xylenes
NR = no reading due to meter capabilty

Brownfields Supplemental Site Assessment
Groundwater Sampling Data Summary
Pigeon Property
1705 Route 128, Westford, Vermont

MW-3

				I-Rule Groundwater Vapor Intrusion Standard-Resident (ug/l)	Vermont Groundwater Enforcement Standard (ug/l)
Depth to Groundwater (Ft)	*11.59*	*4.70*	*9.37*		
pH (standard units)	*6.69*	*6.87*	*6.95*		
Conductivity (umhos)	*103.9*	*1,242*	*1,502*		
Temperature (celcius)	*13.1*	*9.6*	*8.2*		
Turbidity (n.t.u.)	*113*	*13.4*	*119*		
Sample Date	*6/17/20*	*12/3/20*	*1/7/21*		
VOCs, EPA Method 8260c (ug/l)					
Methyl-t-butyl ether (MTBE)	ND<1	ND<1	ND<1	-	11
Benzene	ND<1	ND<1	ND<1	0.92	5
1,2-Dichloroethane	ND<1	ND<1	ND<1	-	5
Toluene	ND<1	ND<1	ND<1	-	1000
1,2-Dibromoethane(EDB)	ND<0.5	ND<0.5	ND<0.5	-	0.05
Ethylbenzene	ND<1	ND<1	ND<1	2.2	700
mp-Xylene	ND<1	ND<1	ND<1	-	10000**
o-Xylene	ND<1	ND<1	ND<1	-	10000**
1,3,5-trimethylbenzene	ND<1	ND<1	ND<1	330	23*
1,2,4-trimethylbenzene	ND<1	ND<1	ND<1	470	23*
1,2,3-trimethylbenzene	NT	ND<1	ND<1		
Naphthalene	ND<0.5	ND<0.5	ND<0.5	4	0.5
Total Reported VOCs	ND	ND	ND		

MW-4

				I-Rule Groundwater Vapor Intrusion Standard-Resident (ug/l)	Vermont Groundwater Enforcement Standard (ug/l)
Depth to Groundwater (Ft)	*11.07*	*5.09*	*7.25*		
pH (standard units)	*6.78*	*6.68*	*6.55*		
Conductivity (umhos)	*1,006*	*866*	*741*		
Temperature (celcius)	*15.0*	*9.4*	*8.7*		
Turbidity (n.t.u.)	*910*	*106*	*81.9*		
Sample Date	*6/17/20*	*12/3/20*	*1/7/21*		
VOCs, EPA Method 8260c (ug/l)					
Methyl-t-butyl ether (MTBE)	**2.8**	ND<1	ND<1	-	11
Benzene	ND<1	ND<1	ND<1	0.92	5
1,2-Dichloroethane	ND<1	ND<1	ND<1	-	5
Toluene	ND<1	ND<1	ND<1	-	1000
1,2-Dibromoethane(EDB)	ND<0.5	ND<0.5	ND<0.5	-	0.05
Ethylbenzene	ND<1	ND<1	ND<1	2.2	700
mp-Xylene	ND<1	ND<1	ND<1	-	10000**
o-Xylene	ND<1	ND<1	ND<1	-	10000**
1,3,5-trimethylbenzene	ND<1	ND<1	ND<1	330	23*
1,2,4-trimethylbenzene	ND<1	ND<1	ND<1	470	23*
1,2,3-trimethylbenzene	NT	ND<1	ND<1		
Naphthalene	ND<0.5	ND<0.5	ND<0.5	4	0.5
Total Reported VOCs	**2.8**	ND	ND		

Brownfields Supplemental Site Assessment
Groundwater Sampling Data Summary
Pigeon Property
1705 Route 128, Westford, Vermont

MW-5

Depth to Groundwater (Ft)	*10.97*	*8.62*	*10.27*	I-Rule Groundwater Vapor Intrusion Standard-Resident (ug/l)	Vermont Groundwater Enforcement Standard (ug/l)
pH (standard units)	*7.01*	*6.52*	*6.84*		
Conductivity (umhos)	*228.00*	*416*	*809*		
Temperature (celcius)	*14.6*	*8.8*	*6.6*		
Turbidity (n.t.u.)	*NR*	*550*	*604*		
Sample Date	*6/17/20*	*12/3/20*	*1/7/21*		
VOCs, EPA Method 8260c (ug/l)					
Methyl-t-butyl ether (MTBE)	ND<1	ND<1	ND<1	-	11
Benzene	**1.8**	ND<1	ND<1	0.92	5
1,2-Dichloroethane	ND<1	ND<1	ND<1	-	5
Toluene	**8.2**	ND<1	ND<1	-	1000
1,2-Dibromoethane(EDB)	ND<0.5	ND<0.5	ND<0.5	-	0.05
Ethylbenzene	**1.0**	ND<1	ND<1	2.2	700
mp-Xylene	**3.6**	ND<1	ND<1	-	10000**
o-Xylene	**1.3**	ND<1	ND<1	-	10000**
1,3,5-trimethylbenzene	ND<1	ND<1	ND<1	330	23*
1,2,4-trimethylbenzene	**1.4**	ND<1	ND<1	470	23*
1,2,3-trimethylbenzene	NT	ND<1	ND<1		
Naphthalene	**0.55**	ND<0.5	ND<0.5	4	0.5
Total Reported VOCs	**18**	ND	ND		

Groundwater Enforcement Standard from Vermont Groundwater Protection Rule 7/19
Groundwater Vapor Intrusion Standards from Vermont I-Rule 7/19
Reported results or reporting limits equal to or in excess of regulatory criteria are shaded.
Dashed Cell - no standard
* means total trimethylbenzenes ** means total xylenes
NR = no reading due to meter capabilty

Brownfields Supplemental Site Assessment
Drinking Water Sampling Data Summary
Pigeon Property
1705 Route 128, Westford, Vermont

Sample *Sample Date*	*DWS-1* *6/17/20*	*DWS* *12/3/20*	*MCL*
VOCs, EPA Method 524.2 (ug/L)			
Dichlorodifluoromethane	ND<0.5	ND<0.5	-
Chloromethane	ND<0.5	ND<0.5	-
Vinyl Chloride	ND<0.5	ND<0.5	2.
Bromomethane	ND<0.5	ND<0.5	-
Chloroethane	ND<0.5	ND<0.5	-
Trichlorofluoromethane	ND<0.5	ND<0.5	-
Diethyl Ether	ND<5	ND<5	-
Acetone	ND<10	ND<10	-
1 ,1-Dichloroethene	ND<0.5	ND<0.5	7
tert-Butyl Alcohol (TBA)	ND<30	ND<30	-
Methylene chloride	ND<0.5	ND<0.5	5
Carbon disulfide	ND<2	ND<2	-
MTBE	ND<0.5	ND<0.5	-
trans-1,2-Dichloroethene	ND<0.5	ND<0.5	100
1,1-Dichloroethane	ND<0.5	ND<0.5	-
2,2-Dichloropropane	ND<0.5	ND<0.5	-
cis-1,2-Dichloroethene	ND<0.5	ND<0.5	70
2-Butanone(MEK)	ND<5	ND<5	-
Bromochloromethane	ND<0.5	ND<0.5	-
Tetrahydrofuran(THF)	ND<5	ND<5	-
Chloroform	ND<0.5	ND<0.5	80*
1,1,1-Trichloroethane	ND<0.5	ND<0.5	200
Carbon tetrachloride	ND<0.5	ND<0.5	5
1 ,1-Dichloropropene	ND<0.5	ND<0.5	-
Benzene	ND<0.5	ND<0.5	5
1,2-Dichloroethane	ND<0.5	ND<0.5	5
Trichloroethene (TCE)	ND<0.5	ND<0.5	5
1,2-Dichloropropane	ND<0.5	ND<0.5	5
Dibromomethane	ND<0.5	ND<0.5	-
Bromodichloromethane	ND<0.5	ND<0.5	80*
4-Methyl-2-pentanone(MIBK)	ND<5	ND<5	-
cis-1,3-Dichloropropene	ND<0.3	ND<0.3	-
Toluene	ND<0.5	ND<0.5	1000
trans-1,3-Dichloropropene	ND<0.3	ND<0.3	-
1,1,2-Trichloroethane	ND<0.5	ND<0.5	5
2-Hexanone	ND<5	ND<5	-
Tetrachloroethene (PCE)	ND<0.05	ND<0.05	5
1,3-Dichloropropane	ND<0.05	ND<0.05	-
Dibromochloromethane	ND<0.05	ND<0.05	80*

NOTES:
Drinking Water Standards - Maximum Contaminant Levels (MCLs) published in the Water Supply Rule, 3/2020
ND<xx = Not Detected< Detection Limit; Results reported above detection limits are indicated in bold
Reporting limits and reported concentrations equal to or above the MCL are shaded
* means the indicated enforcement standard is for total trihalomethanes
*** means the indicated enforcement standard is for total xylenes

Brownfields Supplemental Site Assessment
Drinking Water Sampling Data Summary
Pigeon Property
1705 Route 128, Westford, Vermont

Sample *Sample Date*	*DWS-1* *6/17/20*	*DWS* *12/3/20*	*MCL*
VOCs, EPA Method 524.2 (ug/L) (continued)			
1,2-Dibromoethane(EDB)	ND<0.05	ND<0.05	0.05
Chlorobenzene	ND<0.05	ND<0.05	100
1,1,1,2-Tetrachloroethane	ND<0.5	ND<0.5	-
Ethylbenzene	ND<0.5	ND<0.5	700
mp-Xylene	ND<0.5	ND<0.5	10000***
o-Xylene	ND<0.5	ND<0.5	10000***
Styrene	ND<0.5	ND<0.5	100
Bromoform	ND<0.5	ND<0.5	80*
IsoPropylbenzene	ND<0.5	ND<0.5	-
Bromobenzene	ND<0.5	ND<0.5	-
1,1,2,2-Tetrachloroethane	ND<0.5	ND<0.5	-
1,2,3-Trichloropropane	ND<0.5	ND<0.5	-
n-Propylbenzene	ND<0.5	ND<0.5	-
2-Chlorotoluene	ND<0.5	ND<0.5	-
4-Chlorotoluene	ND<0.5	ND<0.5	-
1,3,5-trimethylbenzene	ND<0.5	ND<0.5	-
tert-Butylbenzene	ND<0.5	ND<0.5	-
1,2,4-trimethylbenzene	ND<0.5	ND<0.5	-
sec-Butylbenzene	ND<0.5	ND<0.5	-
1,3-Dichlorobenzene	ND<0.5	ND<0.5	-
p-Isopropyltoluene	ND<0.5	ND<0.5	-
1,4-Dichlorobenzene	ND<0.5	ND<0.5	75
1,2-Dichlorobenzene	ND<0.5	ND<0.5	600.
n-Butylbenzene	ND<0.5	ND<0.5	-
1,2-Dibromo-3-chloropropane	ND<0.5	ND<0.5	0.2
1,2,4-Trichlorobenzene	ND<0.5	ND<0.5	70
Hexachlorobutadiene	ND<0.5	ND<0.5	-
Naphthalene	ND<0.5	ND<0.5	-
1,2,3-Trichlorobenzene	ND<0.5	ND<0.5	-
Total Reported VOCs	ND	ND	-

NOTES:
Drinking Water Standards - Maximum Contaminant Levels (MCLs) published in the Water Supply Rule, 3/2020
ND<xx = Not Detected< Detection Limit; Results reported above detection limits are indicated in bold
Reporting limits and reported concentrations equal to or above the MCL are shaded
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*** means the indicated enforcement standard is for total xylenes

Brownfields Supplemental Site Assessment
Pigeon Property
Westford, Vermont
Soil Data Summary
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Sample Identification	SB-101	SB-102	SB-103	SB-104	SB-105	SB-106	SB-107	SB-108	SB-109	SB-110	Dup SB-107	*EPA Residential RSL (mg/kg)*	*EPA Industrial RSL (mg/kg)*	*VSS Residential (mg/kg)*	*VSS Non-Residential (mg/kg)*
Sample Depth (ft. bg)	0-1.5	0-1.5	0-1.5	0-1.5	0-1.5	0-1.5	0-1.5	0-1.5	0-1.5	0-1.5	0-1.5				
PID Reading (ppm)	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2				
Sample Date	12/21/20	12/21/20	12/21/20	12/21/20	12/21/20	12/21/20	12/21/20	12/21/20	12/21/20	12/21/20	12/21/20				
PAH EPA Method 8270D (mg/kg)															
Naphthalene	ND<0.008	**0.010**	**0.046**	**0.22**	ND<0.02	**0.10**	**0.0098**	ND<0.008	ND<0.008	ND<0.008	ND<0.008	-	-	2.7	16
2-Methylnaphthalene	ND<0.008	ND<0.008	**0.017**	**0.078**	ND<0.02	**0.039**	ND<0.008	ND<0.008	ND<0.008	ND<0.008	ND<0.008	240	3,000	-	-
1-Methylnaphthalene	ND<0.008	ND<0.008	**0.013**	**0.073**	ND<0.02	**0.031**	ND<0.008	ND<0.008	ND<0.008	ND<0.008	ND<0.008	18	73	-	-
Acenaphthylene	**0.022**	**0.10**	**0.47**	**2.1**	**0.17**	**1.3**	**0.044**	**0.038**	**0.016**	**0.021**	**0.017**	-	-	-	-
Acenaphthene	ND<0.008	ND<0.008	**0.021**	**0.17**	ND<0.02	**0.083**	ND<0.008	ND<0.008	ND<0.008	ND<0.008	ND<0.008	3,600	45,000	-	-
Fluorene	**0.011**	**0.020**	**0.091**	**0.55**	**0.042**	**0.30**	**0.027**	ND<0.008	ND<0.008	ND<0.008	ND<0.008	-	-	2,301	26,371
Phenanthrene	**0.12**	**0.19**	**0.72**	**4.2**	**0.52**	**2.2**	**0.23**	**0.036**	**0.013**	**0.021**	**0.022**	-	-	-	-
Anthracene	**0.017**	**0.060**	**0.29**	**1.4**	**0.092**	**0.99**	**0.041**	**0.014**	ND<0.008	**0.015**	ND<0.008	18,000	230,000	-	-
Fluoranthene	**0.23**	**0.68**	**2.2**	**13**	**1.1**	**6.4**	**0.33**	**0.098**	**0.034**	**0.023**	**0.063**	-	-	2,301	26,371
Pyrene	**0.18**	**0.61**	**1.8**	**12**	**0.86**	**4.8**	**0.22**	**0.10**	**0.031**	**0.077**	**0.052**	1,800	23,000	-	-
Benzo(a)anthracene	**0.083**	**0.41**	**1.4**	**7.2**	**0.44**	**4.1**	**0.12**	**0.055**	**0.019**	**0.011**	**0.032**	1.1	21	-	-
Chrysene	**0.099**	**0.42**	**1.4**	**7.1**	**0.53**	**4.0**	**0.13**	**0.063**	**0.020**	**0.021**	**0.034**	110	2,100	-	-
Benzo(b)fluoranthene	**0.14**	**0.62**	**2.4**	**11**	**0.76**	**6.1**	**0.21**	**0.079**	**0.032**	**0.024**	**0.060**	1.1	21	-	-
Benzo(k)fluoranthene	**0.052**	**0.24**	**0.83**	**3.7**	**0.28**	**2.4**	**0.081**	**0.028**	**0.011**	ND<0.008	**0.023**	11	210	-	-
Benzo(a)pyrene	**0.12**	**0.55**	**2.0**	**9.5**	**0.59**	**4.8**	**0.16**	**0.070**	**0.026**	**0.012**	**0.047**	-	-	0.07	1.54
Indeno(1,2,3-cd)pyrene	**0.086**	**0.38**	**0.94**	**8.0**	**0.24**	**1.5**	**0.065**	**0.025**	**0.011**	**0.021**	**0.023**	1.1	21	-	-
Dibenz(a,h)anthracene	**0.019**	**0.090**	**0.24**	**1.8**	**0.060**	**0.43**	**0.015**	ND<0.008	ND<0.008	ND<0.008	ND<0.008	0.11	2.1	-	-
Benzo(g,h,i)perylene	**0.085**	**0.34**	**0.77**	**8.1**	**0.20**	**1.1**	**0.056**	**0.024**	**0.011**	**0.028**	**0.022**	-	-	-	-
Total Reported PAHs	**1.3**	**4.7**	**15.6**	**90**	**5.9**	**40.7**	**1.74**	**0.63**	**0.22**	**0.27**	**0.40**	-	-	-	-
PAH TEQ as Benzo(a)pyrene	**0.17**	**0.78**	**2.7**	**14**	**0.80**	**6.4**	**0.22**	**0.090**	**0.036**	**0.022**	**0.063**	-	-		0.58 (urban bkgd)

NOTES:
Vermont Soil Standards (VSS) and Statewide Background Concentrations from July 2019 DEC I-Rule
EPA Regional Screening Levels (RSLs) fromMay 2020 RSL Summary Table. RSLs not included when a VSS exists.
Reported results or reporting limits equal to or in excess of residential soil thresholds are shaded.
Dashed Cell=no published value (VSS) or published value not applicable (RSL)

Toxic Equivalency Calculations
Pigeon Property
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SB-101

Contaminant	Concentration (mg/kg)	Toxicity Equivalency Factor	Toxicity Equivalents to Benzo(a)pyrene
Benzo(a)anthracene	**0.083**	0.1	0.0083
Chrysene	**0.099**	0.001	0.000099
Benzo(b)fluoranthene	**0.14**	0.1	0.014
Benzo(k)fluoranthene	**0.052**	0.01	0.00052
Benzo(a)pyrene	**0.12**	1	0.12
Indeno(1,2,3-cd)pyrene	**0.086**	0.1	0.0086
Dibenz(a,h)anthracene	**0.019**	1	0.019
		Total Benzo(a)pyrene Equivalent =	**0.17**

SB-102

Contaminant	Concentration (mg/kg)	Toxicity Equivalency Factor	Toxicity Equivalents to Benzo(a)pyrene
Benzo(a)anthracene	**0.41**	0.1	0.041
Chrysene	**0.42**	0.001	0.00042
Benzo(b)fluoranthene	**0.62**	0.1	0.062
Benzo(k)fluoranthene	**0.24**	0.01	0.0024
Benzo(a)pyrene	**0.55**	1	0.55
Indeno(1,2,3-cd)pyrene	**0.38**	0.1	0.038
Dibenz(a,h)anthracene	**0.090**	1	0.09
		Total Benzo(a)pyrene Equivalent =	**0.78**

SB-103

Contaminant	Concentration (mg/kg)	Toxicity Equivalency Factor	Toxicity Equivalents to Benzo(a)pyrene
Benzo(a)anthracene	**1.4**	0.1	0.14
Chrysene	**1.4**	0.001	0.0014
Benzo(b)fluoranthene	**2.4**	0.1	0.24
Benzo(k)fluoranthene	**0.83**	0.01	0.0083
Benzo(a)pyrene	**2.0**	1	2
Indeno(1,2,3-cd)pyrene	**0.94**	0.1	0.094
Dibenz(a,h)anthracene	**0.24**	1	0.24
		Total Benzo(a)pyrene Equivalent =	**2.7**

SB-104

Contaminant	Concentration (mg/kg)	Toxicity Equivalency Factor	Toxicity Equivalents to Benzo(a)pyrene
Benzo(a)anthracene	**7.2**	0.1	0.72
Chrysene	**7.1**	0.001	0.0071
Benzo(b)fluoranthene	**11**	0.1	1.1
Benzo(k)fluoranthene	**3.7**	0.01	0.037
Benzo(a)pyrene	**9.5**	1	9.5
Indeno(1,2,3-cd)pyrene	**8.0**	0.1	0.8
Dibenz(a,h)anthracene	**1.8**	1	1.8
		Total Benzo(a)pyrene Equivalent =	**14.0**

SB-105

Contaminant	Concentration (mg/kg)	Toxicity Equivalency Factor	Toxicity Equivalents to Benzo(a)pyrene
Benzo(a)anthracene	**0.44**	0.1	0.044
Chrysene	**0.53**	0.001	0.00053
Benzo(b)fluoranthene	**0.76**	0.1	0.076
Benzo(k)fluoranthene	**0.28**	0.01	0.0028
Benzo(a)pyrene	**0.59**	1	0.59
Indeno(1,2,3-cd)pyrene	**0.24**	0.1	0.024
Dibenz(a,h)anthracene	**0.060**	1	0.06
		Total Benzo(a)pyrene Equivalent =	**0.80**

Toxic Equivalency Calculations
Pigeon Property

SB-106

Contaminant	Concentration (mg/kg)	Toxicity Equivalency Factor	Toxicity Equivalents to Benzo(a)pyrene
Benzo(a)anthracene	**4.1**	0.1	0.41
Chrysene	**4.0**	0.001	0.004
Benzo(b)fluoranthene	**6.1**	0.1	0.61
Benzo(k)fluoranthene	**2.4**	0.01	0.024
Benzo(a)pyrene	**4.8**	1	4.8
Indeno(1,2,3-cd)pyrene	**1.5**	0.1	0.15
Dibenz(a,h)anthracene	**0.43**	1	0.43
		Total Benzo(a)pyrene Equivalent =	**6.4**

SB-107

Contaminant	Concentration (mg/kg)	Toxicity Equivalency Factor	Toxicity Equivalents to Benzo(a)pyrene
Benzo(a)anthracene	**0.12**	0.1	0.012
Chrysene	**0.13**	0.001	0.00013
Benzo(b)fluoranthene	**0.21**	0.1	0.021
Benzo(k)fluoranthene	**0.081**	0.01	0.00081
Benzo(a)pyrene	**0.16**	1	0.16
Indeno(1,2,3-cd)pyrene	**0.065**	0.1	0.0065
Dibenz(a,h)anthracene	**0.015**	1	0.015
		Total Benzo(a)pyrene Equivalent =	**0.22**

SB-108

Contaminant	Concentration (mg/kg)	Toxicity Equivalency Factor	Toxicity Equivalents to Benzo(a)pyrene
Benzo(a)anthracene	**0.055**	0.1	0.0055
Chrysene	**0.063**	0.001	0.000063
Benzo(b)fluoranthene	**0.079**	0.1	0.0079
Benzo(k)fluoranthene	**0.028**	0.01	0.00028
Benzo(a)pyrene	**0.07**	1	0.07
Indeno(1,2,3-cd)pyrene	**0.025**	0.1	0.0025
Dibenz(a,h)anthracene	ND<0.008	1	0.004
		Total Benzo(a)pyrene Equivalent =	**0.090**

SB-109

Contaminant	Concentration (mg/kg)	Toxicity Equivalency Factor	Toxicity Equivalents to Benzo(a)pyrene
Benzo(a)anthracene	**0.019**	0.1	0.0019
Chrysene	**0.020**	0.001	0.00002
Benzo(b)fluoranthene	**0.032**	0.1	0.0032
Benzo(k)fluoranthene	**0.011**	0.01	0.00011
Benzo(a)pyrene	**0.026**	1	0.026
Indeno(1,2,3-cd)pyrene	**0.011**	0.1	0.0011
Dibenz(a,h)anthracene	ND<0.008	1	0.004
		Total Benzo(a)pyrene Equivalent =	**0.036**

SB-110

Contaminant	Concentration (mg/kg)	Toxicity Equivalency Factor	Toxicity Equivalents to Benzo(a)pyrene
Benzo(a)anthracene	**0.011**	0.1	0.0011
Chrysene	**0.021**	0.001	0.000021
Benzo(b)fluoranthene	**0.024**	0.1	0.0024
Benzo(k)fluoranthene	ND<0.008	0.01	0.00004
Benzo(a)pyrene	**0.012**	1	0.012
Indeno(1,2,3-cd)pyrene	**0.021**	0.1	0.0021
Dibenz(a,h)anthracene	ND<0.008	1	0.004
		Total Benzo(a)pyrene Equivalent =	**0.022**

Dup SB-107

Contaminant	Concentration (mg/kg)	Toxicity Equivalency Factor	Toxicity Equivalents to Benzo(a)pyrene
Benzo(a)anthracene	**0.032**	0.1	0.0032
Chrysene	**0.034**	0.001	0.000034
Benzo(b)fluoranthene	**0.060**	0.1	0.006
Benzo(k)fluoranthene	**0.023**	0.01	0.00023
Benzo(a)pyrene	**0.047**	1	0.047
Indeno(1,2,3-cd)pyrene	**0.023**	0.1	0.0023
Dibenz(a,h)anthracene	ND<0.008	1	0.004
		Total Benzo(a)pyrene Equivalent =	**0.063**

Brownfields Supplemental Site Assessment
Pigeon Property
Westford, Vermont
Soil Vapor Data Summary

Parameter	SAMPLING LOCATION						Vapor Intrusion Standards Residental	Vapor Intrusion Standards Non-Resident
	Ambient	SG-2	SG-3	SG-4	VP-1	VP-2		
Sampling Date	1/5/21	1/5/21	1/5/21	1/5/21	1/5/21	1/5/21		
EPA TO-15 (µg/m³)	Result	Result	Result	Result	Result	Result		
Acetone	**7.6**	<9.5	<9.5	<9.5	**160**	**10**	-	-
Benzene	**0.47**	<0.32	<0.32	<0.32	<0.32	<0.32	4.3	35
Benzyl chloride	<0.18	<0.52	<0.52	<0.52	<0.52	<0.52	-	-
Bromodichloromethane	<0.23	<0.67	<0.67	<0.67	<0.67	<0.67	-	-
Bromoform	<0.36	<1.0	<1.0	<1.0	<1.0	<1.0	-	-
Bromomethane (Methyl bromide)	<0.14	<0.39	<0.39	<0.39	<0.39	<0.39	-	-
1,3-Butadiene	<0.077	<0.22	<0.22	<0.22	<0.22	<0.22	-	-
Methyl Ethyl Ketone (2-Butanone)	<4.1	<12	<12	<12	<12	<12	-	-
Carbon Disulfide	<1.1	<3.1	<3.1	<3.1	<3.1	<3.1	-	-
Carbon Tetrachloride	**0.50**	<0.63	<0.63	<0.63	<0.63	<0.63	5.7	45
Chlorobenzene	<0.16	<0.46	<0.46	<0.46	<0.46	<0.46	-	-
Chloroethane	<0.092	<0.26	<0.26	<0.26	<0.26	<0.26	330000	1200000
Chloroform	<0.17	<0.49	<0.49	<0.49	<0.49	<0.49	1.3	12
Chloromethane	<0.14	<0.41	<0.41	<0.41	<0.41	<0.41	-	-
Cyclohexane	<0.12	<0.34	<0.34	<0.34	<0.34	<0.34	-	-
Dibromochloromethane	<0.30	<0.85	<0.85	<0.85	<0.85	<0.85	-	-
Dibromoethane, (1,2)	<0.27	<0.77	<0.77	<0.77	<0.77	<0.77	-	-
Dichlorobenzene (ortho)	<0.21	<0.60	<0.60	<0.60	<0.60	<0.60	-	-
Dichlorobenzene (meta)	<0.21	<0.60	<0.60	<0.60	<0.60	<0.60	-	-
Dichlorobenzene (para)	<0.21	<0.60	<0.60	<0.60	<0.60	<0.60	-	-
Dichlorodifluoromethane (Freon 12)	<0.17	<0.49	<0.49	<0.49	<0.49	<0.49	-	-
Dichloroethane (1,1)	<0.14	<0.40	<0.40	<0.40	<0.40	<0.40	21	170
Dichloroethane (1,2)	<0.14	<0.40	<0.40	<0.40	<0.40	<0.40	-	-
Dichloroethylene, 1,1-	<0.14	<0.40	<0.40	<0.40	<0.40	<0.40	6700	23000
Dichloroethylene, 1,2-cis-	<0.14	<0.40	<0.40	<0.40	<0.40	<0.40	-	-
Dichloroethene (trans-1,2)	<0.14	<0.40	<0.40	<0.40	<0.40	<0.40	-	-
Dichloropropane (1,2)	<0.16	<0.46	<0.46	<0.46	<0.46	<0.46	-	-
Dichloropropene (cis-1,3)	<0.16	<0.45	<0.45	<0.45	<0.45	<0.45	-	-
trans-1,3-Dichloropropene	<0.16	<0.45	<0.45	<0.45	<0.45	<0.45	-	-
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	<0.24	<0.70	<0.70	<0.70	<0.70	<0.70	-	-
Dioxane (1,4)	<1.3	<3.6	<3.6	<3.6	<3.6	<3.6	-	-
Ethanol	**4.5**	<7.5	<7.5	<7.5	**250**	**17**	-	-
Ethyl Acetate	<1.3	<3.6	<3.6	<3.6	<3.6	<3.6	-	-
Ethylbenzene	<0.15	<0.43	<0.43	<0.43	**0.47**	<0.43	13	110
4-Ethyltoluene	<0.17	<0.49	<0.49	<0.49	<0.49	<0.49	-	-
Heptane	<0.14	<0.41	<0.41	<0.41	<0.41	<0.41	-	-
Hexachlorobutadiene	<0.37	<1.1	<1.1	<1.1	<1.1	<1.1	-	-
Hexane	<4.9	<14	<14	<14	<14	<14	-	-
2-Hexanone (MBK)	<0.29	<0.82	<0.82	<0.82	<0.82	<0.82	-	-
Isopropanol	<3.4	<9.8	<9.8	<9.8	**21**	<9.8	-	-
Methyl tert-butyl ether (MTBE)	<0.13	<0.36	<0.36	<0.36	<0.36	<0.36	-	-
Methylene Chloride	**1.8**	<3.5	<3.5	**6.0**	<3.5	<3.5	2000	27000
4-Methyl-2-pentanone (MIBK)	<0.14	<0.41	<0.41	<0.41	<0.41	<0.41	-	-
Naphthalene	<0.18	<0.52	<0.52	<0.52	<0.52	<0.52	1	8
Propene	<2.4	<6.9	<6.9	<6.9	<6.9	<6.9	-	-
Styrene	<0.15	<0.43	<0.43	<0.43	<0.43	<0.43	-	-
1,1,2,2-Tetrachloroethane	<0.24	<0.69	<0.69	<0.69	<0.69	<0.69	-	-
Tetrachloroethylene	<0.24	**8.9**	**0.85**	<0.68	<0.68	<0.68	21	170
Tetrahydrofuran	<1.0	<2.9	**3.1**	<2.9	<2.9	<2.9	-	-
Toluene	**0.46**	<0.38	<0.38	<0.38	**1.3**	**0.38**	-	-
Trichlorobenzene (1,2,4)	<0.26	<0.74	<0.74	<0.74	<0.74	<0.74	-	-
Trichloroethane (1,1,1)	<0.19	<0.55	<0.55	<0.55	<0.55	<0.55	-	-
Trichloroethane (1,1,2)	<0.19	<0.55	<0.55	<0.55	<0.55	<0.55	-	-
Trichloroethylene	<0.19	<0.54	<0.54	<0.54	<0.54	<0.54	6.7	23
Trichlorofluoromethane (Freon 11)	**1.2**	**7.4**	<2.2	<2.2	<2.2	<2.2	-	-
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	<1.1	<3.1	<3.1	<3.1	<3.1	<3.1	-	-
Trimethylbenzene (1,2,4)	<0.17	<0.49	<0.49	<0.49	<0.49	<0.49	2000*	7000*
Trimethylbenzene (1,3,5)	<0.17	<0.49	<0.49	<0.49	<0.49	<0.49	2000*	7000*
Vinyl Acetate	<2.5	<7.0	<7.0	<7.0	<7.0	<7.0	-	-
Vinyl Chloride	<0.089	<0.26	<0.26	<0.26	<0.26	<0.26	3.7	62
m&p-Xylene	<0.30	<0.87	<0.87	<0.87	**1.9**	<0.87	-	-
o-Xylene	<0.15	<0.43	**0.48**	<0.43	**1.0**	<0.43	-	-

NOTES:
1. Vermont Sub-Slab Soil Vapor Intrusion Standards from July 2019 DEC I-Rule
2. < in result column indicates analyte is not detected above the lab reporting limit shown.
3. "-" Indicates no regulatory limits.
4. "*" Standard is sum of all trimethylbenzene isomers
5. Values in bold indicate compound detected above laboratory detection limit
6. Reported results or reporting limits equal to or in excess of residential thresholds are shaded.

Eastern Analytical, Inc.

professional laboratory and drilling services

Angela Emerson
LE Environmental LLC
21 North Main Street #1
Waterbury , VT 05676

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 219630
Client Identification: Pigeon Property | 19-138
Date Received: 12/4/2020

Dear Ms. Emerson :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.easternanalytical.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted
< : "less than" followed by the reporting limit
> : "greater than" followed by the reporting limit
%R : % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw — Lorraine Olashaw, Lab Director

12.10.20 — Date

9 — # of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: **219630**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Temperature upon receipt (°C): 2.1 **Received on ice or cold packs (Yes/No): Y**

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date/Time Sampled		Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
219630.01	DWS	12/4/20	12/3/20	9:00	aqueous		Adheres to Sample Acceptance Policy
219630.02	MW-5	12/4/20	12/3/20	9:40	aqueous		Adheres to Sample Acceptance Policy
219630.03	MW-4	12/4/20	12/3/20	10:15	aqueous		Adheres to Sample Acceptance Policy
219630.04	MW-3	12/4/20	12/3/20	10:45	aqueous		Adheres to Sample Acceptance Policy
219630.05	MW-2	12/4/20	12/3/20	11:15	aqueous		Adheres to Sample Acceptance Policy
219630.06	Duplicate	12/4/20	12/3/20	11:15	aqueous		Adheres to Sample Acceptance Policy
219630.07	MW-1	12/4/20	12/3/20	11:45	aqueous		Adheres to Sample Acceptance Policy
219630.08	Trip Blank	12/4/20	10/26/20	7:15	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.
Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.
All results contained in this report relate only to the above listed samples.
References include:
1) EPA 600/4-79-020, 1983
2) Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd Edition or noted Revision year.
3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
4) Hach Water Analysis Handbook, 4th edition, 1992

LABORATORY REPORT

EAI ID#: **219630**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Sample ID:	MW-5	MW-4	MW-3	MW-2
Lab Sample ID:	219630.02	219630.03	219630.04	219630.05
Matrix:	aqueous	aqueous	aqueous	aqueous
Date Sampled:	12/3/20	12/3/20	12/3/20	12/3/20
Date Received:	12/4/20	12/4/20	12/4/20	12/4/20
Units:	ug/L	ug/L	ug/L	ug/L
Date of Analysis:	12/7/20	12/7/20	12/7/20	12/7/20
Analyst:	DGM	DGM	DGM	DGM
Method:	8260C	8260C	8260C	8260C
Dilution Factor:	1	1	1	1
Methyl-t-butyl ether(MTBE)	< 1	< 1	< 1	< 1
Benzene	< 1	< 1	< 1	< 1
1,2-Dichloroethane	< 1	< 1	< 1	< 1
Toluene	< 1	< 1	< 1	< 1
1,2-Dibromoethane(EDB)	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	< 1	< 1	< 1	**1.5**
mp-Xylene	< 1	< 1	< 1	< 1
o-Xylene	< 1	< 1	< 1	< 1
1,3,5-Trimethylbenzene	< 1	< 1	< 1	< 1
1,2,4-Trimethylbenzene	< 1	< 1	< 1	< 1
1,2,3-Trimethylbenzene	< 1	< 1	< 1	< 1
Naphthalene	< 0.5	< 0.5	< 0.5	< 0.5
4-Bromofluorobenzene (surr)	**95 %R**	**95 %R**	**95 %R**	**96 %R**
1,2-Dichlorobenzene-d4 (surr)	**100 %R**	**99 %R**	**99 %R**	**100 %R**
Toluene-d8 (surr)	**102 %R**	**101 %R**	**101 %R**	**101 %R**

The following analytes were assessed down to the listed concentrations, 1,2-dibromoethane(EDB) (0.05ug/L). Detectable analytes are reported as J flags and should be considered estimated values.

GC/MS analysis was employed for the determination of the 8021B compound list.

LABORATORY REPORT

EAI ID#: **219630**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Sample ID:	Duplicate	MW-1	Trip Blank
Lab Sample ID:	219630.06	219630.07	219630.08
Matrix:	aqueous	aqueous	aqueous
Date Sampled:	12/3/20	12/3/20	10/26/20
Date Received:	12/4/20	12/4/20	12/4/20
Units:	ug/L	ug/L	ug/L
Date of Analysis:	12/8/20	12/8/20	12/7/20
Analyst:	DGM	DGM	DGM
Method:	8260C	8260C	8260C
Dilution Factor:	1	200	1
Methyl-t-butyl ether(MTBE)	< 1	< 200	< 1
Benzene	< 1	**4900**	< 1
1,2-Dichloroethane	< 1	< 200	< 1
Toluene	< 1	**15000**	< 1
1,2-Dibromoethane(EDB)	< 0.5	< 100	< 0.5
Ethylbenzene	**1.4**	**2500**	< 1
mp-Xylene	< 1	**12000**	< 1
o-Xylene	< 1	**5700**	< 1
1,3,5-Trimethylbenzene	< 1	**880**	< 1
1,2,4-Trimethylbenzene	< 1	**3300**	< 1
1,2,3-Trimethylbenzene	< 1	**950**	< 1
Naphthalene	< 0.5	**710**	< 0.5
4-Bromofluorobenzene (surr)	**95 %R**	**98 %R**	**95 %R**
1,2-Dichlorobenzene-d4 (surr)	**100 %R**	**98 %R**	**99 %R**
Toluene-d8 (surr)	**101 %R**	**101 %R**	**102 %R**

The following analytes were assessed down to the listed concentrations, 1,2-dibromoethane(EDB) (0.05ug/L). Detectable analytes are reported as J flags and should be considered estimated values.

GC/MS analysis was employed for the determination of the 8021B compound list.

QC REPORT

EAI ID#: **219630**

Client: **LE Environmental LLC**

Batch ID: 637430-38953/A120720vVT801

Client Designation: **Pigeon Property | 19-138**

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Methyl-t-butyl ether(MTBE)	< 1	< .061	18 (88 %R)	18 (91 %R) (3 RPD)	12/7/2020	ug/L	70 - 130	20	8260C
Benzene	< 1	< .135	19 (96 %R)	20 (99 %R) (4 RPD)	12/7/2020	ug/L	70 - 130	20	8260C
1,2-Dichloroethane	< 1	< .093	19 (93 %R)	19 (94 %R) (2 RPD)	12/7/2020	ug/L	70 - 130	20	8260C
Toluene	< 1	< .093	19 (95 %R)	20 (99 %R) (3 RPD)	12/7/2020	ug/L	70 - 130	20	8260C
1,2-Dibromoethane(EDB)	< 0.5	< .113	20 (99 %R)	20 (99 %R) (0 RPD)	12/7/2020	ug/L	70 - 130	20	8260C
Ethylbenzene	< 1	< .135	19 (96 %R)	20 (98 %R) (3 RPD)	12/7/2020	ug/L	70 - 130	20	8260C
mp-Xylene	< 1	< .158	37 (92 %R)	38 (95 %R) (3 RPD)	12/7/2020	ug/L	70 - 130	20	8260C
o-Xylene	< 1	< .057	19 (96 %R)	20 (98 %R) (2 RPD)	12/7/2020	ug/L	70 - 130	20	8260C
1,3,5-Trimethylbenzene	< 1	< .164	22 (110 %R)	22 (111 %R) (1 RPD)	12/7/2020	ug/L	70 - 130	20	8260C
1,2,4-Trimethylbenzene	< 1	< .086	19 (93 %R)	19 (94 %R) (0 RPD)	12/7/2020	ug/L	70 - 130	20	8260C
1,2,3-Trimethylbenzene	< 1	< .2072	19 (96 %R)	19 (96 %R) (0 RPD)	12/7/2020	ug/L	70 - 130	20	8260C
Naphthalene	< 0.5	< .217	20 (99 %R)	19 (97 %R) (2 RPD)	12/7/2020	ug/L	70 - 130	20	8260C
4-Bromofluorobenzene (surr)	94 %R		102 %R	103 %R	12/7/2020	% Rec	70 - 130	50	8260C
1,2-Dichlorobenzene-d4 (surr)	99 %R		114 %R	114 %R	12/7/2020	% Rec	70 - 130	50	8260C
Toluene-d8 (surr)	101 %R		100 %R	100 %R	12/7/2020	% Rec	70 - 130	50	8260C

Samples were extracted and analyzed within holding time limits.
Instrumentation was calibrated in accordance with the method requirements.
The method blanks were free of contamination at the reporting limits.
Sample surrogate recoveries met the above stated criteria.
The associated matrix spikes and/or Laboratory Control Samples met acceptance criteria.
There were no exceptions in the analyses, unless noted.
*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted on the sample page, flagged analytes that exceed acceptance limits in the Quality Control sample do not impact the data.

LABORATORY REPORT

EAI ID#: **219630**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Sample ID:	DWS
Lab Sample ID:	219630.01
Matrix:	aqueous
Date Sampled:	12/3/20
Date Received:	12/4/20
Units:	ug/L
Date of Analysis:	12/8/20
Analyst:	AM
Method:	524.2
Dilution Factor:	1

Dichlorodifluoromethane	< 0.5
Chloromethane	< 0.5
Vinyl chloride	< 0.5
Bromomethane	< 0.5
Chloroethane	< 0.5
Trichlorofluoromethane	< 0.5
Diethyl Ether	< 5
Acetone	< 10
1,1-Dichloroethene	< 0.5
tert-Butyl Alcohol (TBA)	< 30
Methylene chloride	< 0.5
Carbon disulfide	< 2
Methyl-t-butyl ether(MTBE)	< 0.5
Ethyl-t-butyl ether(ETBE)	< 0.5
Isopropyl ether(DIPE)	< 0.5
tert-amyl methyl ether(TAME)	< 0.5
trans-1,2-Dichloroethene	< 0.5
1,1-Dichloroethane	< 0.5
2,2-Dichloropropane	< 0.5
cis-1,2-Dichloroethene	< 0.5
2-Butanone(MEK)	< 5
Bromochloromethane	< 0.5
Tetrahydrofuran(THF)	< 5
Chloroform	< 0.5
1,1,1-Trichloroethane	< 0.5
Carbon tetrachloride	< 0.5
1,1-Dichloropropene	< 0.5
Benzene	< 0.5
1,2-Dichloroethane	< 0.5
Trichloroethene	< 0.5
1,2-Dichloropropane	< 0.5
Dibromomethane	< 0.5
Bromodichloromethane	< 0.5
4-Methyl-2-pentanone(MIBK)	< 5
cis-1,3-Dichloropropene	< 0.3
Toluene	< 0.5
trans-1,3-Dichloropropene	< 0.3
1,1,2-Trichloroethane	< 0.5
2-Hexanone	< 5
Tetrachloroethene	< 0.5
1,3-Dichloropropane	< 0.5
Dibromochloromethane	< 0.5
1,2-Dibromoethane(EDB)	< 0.5
Chlorobenzene	< 0.5
1,1,1,2-Tetrachloroethane	< 0.5
Ethylbenzene	< 0.5

LABORATORY REPORT

EAI ID#: **219630**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Sample ID:	DWS
Lab Sample ID:	219630.01
Matrix:	aqueous
Date Sampled:	12/3/20
Date Received:	12/4/20
Units:	ug/L
Date of Analysis:	12/8/20
Analyst:	AM
Method:	524.2
Dilution Factor:	1
mp-Xylene	< 0.5
o-Xylene	< 0.5
Styrene	< 0.5
Bromoform	< 0.5
IsoPropylbenzene	< 0.5
Bromobenzene	< 0.5
1,1,2,2-Tetrachloroethane	< 0.5
1,2,3-Trichloropropane	< 0.5
n-Propylbenzene	< 0.5
2-Chlorotoluene	< 0.5
4-Chlorotoluene	< 0.5
1,3,5-Trimethylbenzene	< 0.5
tert-Butylbenzene	< 0.5
1,2,4-Trimethylbenzene	< 0.5
sec-Butylbenzene	< 0.5
1,3-Dichlorobenzene	< 0.5
p-Isopropyltoluene	< 0.5
1,4-Dichlorobenzene	< 0.5
1,2-Dichlorobenzene	< 0.5
n-Butylbenzene	< 0.5
1,2-Dibromo-3-chloropropane	< 0.5
1,3,5-Trichlorobenzene	< 0.5
1,2,4-Trichlorobenzene	< 0.5
Hexachlorobutadiene	< 0.5
Naphthalene	< 0.5
1,2,3-Trichlorobenzene	< 0.5
4-Bromofluorobenzene (surr)	**96 %R**
1,2-Dichlorobenzene-d4 (surr)	**106 %R**

QC REPORT

EAI ID#: **219630**

Client: **LE Environmental LLC**

Batch ID: 637430-99649/A120820V5241

Client Designation: **Pigeon Property | 19-138**

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Dichlorodifluoromethane	< 0.5	11 (114 %R)	11 (110 %R) (4 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Chloromethane	< 0.5	12 (118 %R)	11 (111 %R) (6 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Vinyl chloride	< 0.5	11 (115 %R)	11 (109 %R) (5 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Bromomethane	< 0.5	11 (112 %R)	11 (110 %R) (2 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Chloroethane	< 0.5	9.8 (98 %R)	9.5 (95 %R) (3 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Trichlorofluoromethane	< 0.5	9.9 (99 %R)	9.5 (95 %R) (4 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Diethyl Ether	< 5	8.9 (89 %R)	8.6 (86 %R) (4 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Acetone	< 10	< 10 (95 %R)	< 10 (90 %R) (6 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,1-Dichloroethene	< 0.5	9.5 (95 %R)	9.5 (95 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
tert-Butyl Alcohol (TBA)	< 30	48 (97 %R)	48 (95 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Methylene chloride	< 0.5	9.9 (99 %R)	9.8 (98 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Carbon disulfide	< 2	9.1 (91 %R)	9 (90 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Methyl-t-butyl ether(MTBE)	< 0.5	8.8 (88 %R)	8.7 (87 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Ethyl-t-butyl ether(ETBE)	< 0.5	8.9 (89 %R)	8.7 (87 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Isopropyl ether(DIPE)	< 0.5	8.4 (84 %R)	8.4 (84 %R) (0 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
tert-amyl methyl ether(TAME)	< 0.5	8.7 (87 %R)	8.7 (87 %R) (0 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
trans-1,2-Dichloroethene	< 0.5	9.5 (95 %R)	9.5 (95 %R) (0 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,1-Dichloroethane	< 0.5	9.2 (92 %R)	9.2 (92 %R) (0 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
2,2-Dichloropropane	< 0.5	9.7 (97 %R)	9.6 (96 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
cis-1,2-Dichloroethene	< 0.5	9.0 (90 %R)	8.9 (89 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
2-Butanone(MEK)	< 5	8.7 (87 %R)	8.4 (84 %R) (4 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Bromochloromethane	< 0.5	9.8 (98 %R)	9.9 (99 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Tetrahydrofuran(THF)	< 5	8.6 (86 %R)	8.3 (83 %R) (4 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Chloroform	< 0.5	9.1 (91 %R)	9.0 (90 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,1,1-Trichloroethane	< 0.5	9.4 (94 %R)	9.3 (93 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Carbon tetrachloride	< 0.5	9.4 (94 %R)	9.3 (93 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,1-Dichloropropene	< 0.5	9.1 (91 %R)	9.0 (90 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Benzene	< 0.5	9.2 (92 %R)	9.1 (91 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,2-Dichloroethane	< 0.5	9.1 (91 %R)	9.2 (92 %R) (0 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Trichloroethene	< 0.5	9.1 (91 %R)	9.1 (91 %R) (0 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,2-Dichloropropane	< 0.5	9.0 (90 %R)	8.9 (89 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Dibromomethane	< 0.5	9.6 (96 %R)	9.6 (96 %R) (0 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Bromodichloromethane	< 0.5	9.4 (94 %R)	9.4 (94 %R) (0 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
4-Methyl-2-pentanone(MIBK)	< 5	8.8 (88 %R)	8.7 (87 %R) (2 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
cis-1,3-Dichloropropene	< 0.3	8.9 (89 %R)	8.8 (88 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Toluene	< 0.5	9.1 (91 %R)	9.1 (91 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
trans-1,3-Dichloropropene	< 0.3	9.3 (93 %R)	9.1 (91 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,1,2-Trichloroethane	< 0.5	9.6 (96 %R)	9.5 (95 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
2-Hexanone	< 5	8.3 (83 %R)	8.2 (82 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Tetrachloroethene	< 0.5	9.6 (96 %R)	9.5 (95 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,3-Dichloropropane	< 0.5	8.9 (89 %R)	9.0 (90 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Dibromochloromethane	< 0.5	9.7 (97 %R)	9.5 (95 %R) (2 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,2-Dibromoethane(EDB)	< 0.5	9.4 (94 %R)	9.3 (93 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Chlorobenzene	< 0.5	9.3 (93 %R)	9.2 (92 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,1,1,2-Tetrachloroethane	< 0.5	9.5 (95 %R)	9.4 (94 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Ethylbenzene	< 0.5	9.1 (91 %R)	9.0 (90 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2

QC REPORT

EAI ID#: **219630**

Client: **LE Environmental LLC**

Batch ID: 637430-99649/A120820V5241

Client Designation: **Pigeon Property | 19-138**

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
mp-Xylene	< 0.5	19 (97 %R)	19 (96 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
o-Xylene	< 0.5	9.6 (96 %R)	9.4 (94 %R) (2 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Styrene	< 0.5	9.5 (95 %R)	9.4 (94 %R) (2 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Bromoform	< 0.5	10 (101 %R)	10 (102 %R) (0 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
IsoPropylbenzene	< 0.5	9.4 (94 %R)	9.4 (94 %R) (0 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Bromobenzene	< 0.5	9.7 (97 %R)	9.6 (96 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,1,2,2-Tetrachloroethane	< 0.5	8.6 (86 %R)	8.5 (85 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,2,3-Trichloropropane	< 0.5	9.6 (96 %R)	9.6 (96 %R) (0 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
n-Propylbenzene	< 0.5	9.5 (95 %R)	9.3 (93 %R) (2 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
2-Chlorotoluene	< 0.5	9.0 (90 %R)	9.4 (94 %R) (4 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
4-Chlorotoluene	< 0.5	9.9 (99 %R)	9.8 (98 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,3,5-Trimethylbenzene	< 0.5	9.1 (91 %R)	8.9 (89 %R) (2 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
tert-Butylbenzene	< 0.5	9.4 (94 %R)	9.1 (91 %R) (2 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,2,4-Trimethylbenzene	< 0.5	9.4 (94 %R)	9.1 (91 %R) (3 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
sec-Butylbenzene	< 0.5	9.7 (97 %R)	9.6 (96 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,3-Dichlorobenzene	< 0.5	9.8 (98 %R)	9.6 (96 %R) (2 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
p-Isopropyltoluene	< 0.5	8.6 (86 %R)	8.6 (86 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,4-Dichlorobenzene	< 0.5	9.7 (97 %R)	9.5 (95 %R) (2 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,2-Dichlorobenzene	< 0.5	9.8 (98 %R)	9.7 (97 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
n-Butylbenzene	< 0.5	8.8 (88 %R)	8.5 (85 %R) (3 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,2-Dibromo-3-chloropropane	< 0.5	9.2 (92 %R)	9.0 (90 %R) (2 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,3,5-Trichlorobenzene	< 0.5	9.7 (97 %R)	9.4 (94 %R) (3 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,2,4-Trichlorobenzene	< 0.5	9.7 (97 %R)	9.4 (94 %R) (3 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Hexachlorobutadiene	< 0.5	9.8 (98 %R)	9.7 (97 %R) (1 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
Naphthalene	< 0.5	9.4 (94 %R)	8.9 (89 %R) (5 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
1,2,3-Trichlorobenzene	< 0.5	9.8 (98 %R)	9.5 (95 %R) (3 RPD)	12/8/2020	ug/L	70 - 130	30	524.2
4-Bromofluorobenzene (surr)	99 %R	101 %R	101 %R	12/8/2020	% Rec	70 - 130		524.2
1,2-Dichlorobenzene-d4 (surr)	105 %R	105 %R	107 %R	12/8/2020	% Rec	70 - 130		524.2

Samples were extracted and analyzed within holding time limits.
Instrumentation was calibrated in accordance with the method requirements.
The method blanks were free of contamination at the reporting limits.
Sample surrogate recoveries met the above stated criteria.
The associated matrix spikes and/or Laboratory Control Samples met acceptance criteria.
There were no exceptions in the analyses, unless noted.
*/!Flagged analyte recoveries deviated from the QA/QC limits. Unless noted on the sample page, flagged analytes that exceed acceptance limits in the Quality Control sample do not impact the data.

Page 1 of 1

CHAIN-OF-CUSTODY RECORD

219630

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

SAMPLE I.D.	SAMPLING DATE/TIME *IF COMPOSITE, INDICATE BOTH START & FINISH DATE/TIME	MATRIX (SEE BELOW)	GRAB/*COMPOSITE	VOC: 524.2 MTBE ONLY; (524.2) 5247 BTEX; 8260 624 VTICS; 8260 624 1,4 DIOXANE; (8021) BTEX HALOS; 8015 GRO MAVPH	SVOC: 8270 625 SVTICS EDB DBCP ABN A BN PAH; TPH8100 LI L2; 8015 DRO MAEPH; PEST 608 PCB 608 PEST 8081 PCB 8082; OIL & GREASE 1664 TPH 1664	TCLP: TCLP 1311 ABN METALS VOC PEST HERB	METALS: DISSOLVED METALS (LIST BELOW); TOTAL METALS (LIST BELOW)	INORGANICS: TS TSS TDS SPEC. CON.; BR CL F SO4 NO2 NO3-NO2; BOD CBOD T. ALK.; TKN NH3 T. PHOS. O. PHOS.; PH T. RES. CHLORINE; COD PHENOLS TOC DOC; TOTAL CYANIDE TOTAL SULFIDE; REACTIVE CYANIDE REACTIVE SULFIDE FLASHPOINT IGNITABILITY	MICRO: TOTAL COLIFORM E. COLI FECAL COLIFORM ENTEROCOCCI HETEROTROPHIC PLATE COUNT	OTHER	# OF CONTAINERS	NOTES MEOH VIAL #
DWS	12/3/20, 0900	DW	G	X						3	
MW-5	12/3/20, 0940	GW	G	X						3	
MW-4	12/3/20; 1015	GW	G	X						3	
MW-3	12/3/20; 1045	GW	G	X						3	
MW-2	12/3/20; 1115	GW	G	X						3	
Duplicate	12/3/20; 1115	GW	G	X						3	
MW-1	12/3/20; 1145	GW	G	X						3	
Trip Blank	12/2/20; 0715	GW	G	X						2	

MATRIX: A-AIR; S-SOIL; GW-GROUND WATER; SW-SURFACE WATER; DW-DRINKING WATER; WW-WASTE WATER

PRESERVATIVE: H-HCL; N-HNO_3; S-H_2SO_4; Na-NaOH; M-MEOH

PROJECT MANAGER: Angela Emerson

COMPANY: LE Environmental LLC

ADDRESS: 21 N Main St, Unit #1

CITY: Waterbury STATE: VT ZIP: 05676

PHONE: 802-917-2001 EXT.:

FAX: —

E-MAIL: angela@lenv.net

SITE NAME: Pigeon Property

PROJECT #: 19-138

STATE: NH MA ME (VT) OTHER:

REGULATORY PROGRAM: NPDES; RGP; POTW; STORMWATER OR GWP; OIL FUND; BROWNFIELD OR OTHER:

QUOTE #: PO #:

DATE NEEDED: Normal TAT

QA/QC REPORTING LEVEL: A B C OR MA MCP

REPORTING OPTIONS: PRELIMS: YES OR NO

ELECTRONIC OPTIONS: E-MAIL PDF EQUIS EXCEL

TEMP. 2.1 °C

ICE? (YES) NO

SAMPLER(S): Angela Emerson

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
Angela Emerson	12/3/20	1300	
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
	12/4/20	1030	
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
	12/4/20	1240	

METALS: 8 RCRA 13 PP FE, MN PB, CU

OTHER METALS:

SAMPLES FIELD FILTERED? ☐ YES ☐ NO

NOTES: (IE: SPECIAL DETECTION LIMITS, BILLING INFO, IF DIFFERENT)

VT PCE Compound List
M80216

SITE HISTORY: Gasoline Sta.

SUSPECTED CONTAMINATION: Petro.

FIELD READINGS:

Eastern Analytical, Inc.
professional laboratory and drilling services
25 CHENELL DRIVE | CONCORD, NH 03301 | TEL: 603.228.0525 | 1.800.287.0525 | E-MAIL: CUSTOMERSERVICE@EASTERNANALYTICAL.COM | WWW.EASTERNANALYTICAL.COM

(WHITE: ORIGINAL GREEN: PROJECT MANAGER)

Eastern Analytical, Inc.
professional laboratory and drilling services

Angela Emerson
LE Environmental LLC
21 North Main Street #1
Waterbury , VT 05676

Subject: Laboratory Report

Eastern Analytical, Inc. ID:	220359
Client Identification:	Pigeon Property | 19-138
Date Received:	12/22/2020

Dear Ms. Emerson :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.easternanalytical.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted
< : "less than" followed by the reporting limit
> : "greater than" followed by the reporting limit
%R : % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

12.30.20
Date

15
# of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: **220359**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Temperature upon receipt (°C): 3.5 **Received on ice or cold packs (Yes/No): Y**

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date/Time Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
220359.01	SB-101	12/22/20	12/21/20 9:25	soil	85.7	Adheres to Sample Acceptance Policy
220359.02	SB-102	12/22/20	12/21/20 13:55	soil	88.9	Adheres to Sample Acceptance Policy
220359.03	SB-103	12/22/20	12/21/20 13:45	soil	92.3	Adheres to Sample Acceptance Policy
220359.04	SB-104	12/22/20	12/21/20 13:35	soil	83.9	Adheres to Sample Acceptance Policy
220359.05	SB-105	12/22/20	12/21/20 13:30	soil	79.3	Adheres to Sample Acceptance Policy
220359.06	SB-106	12/22/20	12/21/20 11:50	soil	83.1	Adheres to Sample Acceptance Policy
220359.07	SB-107	12/22/20	12/21/20 11:15	soil	89.0	Adheres to Sample Acceptance Policy
220359.08	SB-108	12/22/20	12/21/20 12:55	soil	86.0	Adheres to Sample Acceptance Policy
220359.09	SB-109	12/22/20	12/21/20 12:35	soil	91.9	Adheres to Sample Acceptance Policy
220359.1	SB-110	12/22/20	12/21/20 13:20	soil	91.6	Adheres to Sample Acceptance Policy
220359.11	Duplicate	12/22/20	12/21/20 11:15	soil	84.9	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.
Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.
All results contained in this report relate only to the above listed samples.
References include:
1) EPA 600/4-79-020, 1983
2) Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd Edition or noted Revision year.
3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
4) Hach Water Analysis Handbook, 4th edition, 1992

LABORATORY REPORT

EAI ID#: **220359**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Client Sample ID:	SB-101
Lab Sample ID:	220359.01
Matrix:	soil
Date Sampled:	12/21/20
Date Received:	12/22/20
Date Prepared:	12/23/20
Units	mg/kg
Method	8270D
Analyst	JMR

	Results	Dilution Factor	Date Analyzed	TEF	TEQ
Naphthalene	< 0.008	1	12/28/20		
2-Methylnaphthalene	< 0.008	1	12/28/20		
1-Methylnaphthalene	< 0.008	1	12/28/20		
Acenaphthylene	**0.022**	1	12/28/20		
Acenaphthene	< 0.008	1	12/28/20		
Fluorene	**0.011**	1	12/28/20		
Phenanthrene	**0.12**	1	12/28/20		
Anthracene	**0.017**	1	12/28/20		
Fluoranthene	**0.23**	1	12/28/20		
Pyrene	**0.18**	1	12/28/20		
Benzo[a]anthracene	**0.083**	1	12/28/20	0.1	.0083
Chrysene	**0.099**	1	12/28/20	0.001	.000099
Benzo[b]fluoranthene	**0.14**	1	12/28/20	0.1	.014
Benzo[k]fluoranthene	**0.052**	1	12/28/20	0.01	.00052
Benzo[a]pyrene	**0.12**	1	12/28/20	1	.12
Indeno[1,2,3-cd]pyrene	**0.086**	1	12/28/20	0.1	.0086
Dibenz[a,h]anthracene	**0.019**	1	12/28/20	1	.019
Benzo[g,h,i]perylene	**0.085**	1	12/28/20		
p-Terphenyl-D14 (surr)	**60 %R**		12/28/20		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

The TEF factors set forth in this report are taken from the following EPA document: "Mid- Atlantic Risk Assessment User's Guide: November 2013". This guidance document sets forth a recommended, but not mandatory approach based upon currently available information with respect to risk assessment for response actions at CERCLA sites. This document does not establish binding rules. This document contains the most current TEF values per VT IROCP.

LABORATORY REPORT

EAI ID#: **220359**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Client Sample ID:	SB-102
Lab Sample ID:	220359.02
Matrix:	soil
Date Sampled:	12/21/20
Date Received:	12/22/20
Date Prepared:	12/23/20
Units	mg/kg
Method	8270D
Analyst	JMR

	Results	Dilution Factor	Date Analyzed	TEF	TEQ
Naphthalene	**0.010**	1	12/28/20		
2-Methylnaphthalene	< 0.008	1	12/28/20		
1-Methylnaphthalene	< 0.008	1	12/28/20		
Acenaphthylene	**0.10**	1	12/28/20		
Acenaphthene	< 0.008	1	12/28/20		
Fluorene	**0.020**	1	12/28/20		
Phenanthrene	**0.19**	1	12/28/20		
Anthracene	**0.060**	1	12/28/20		
Fluoranthene	**0.68**	1	12/28/20		
Pyrene	**0.61**	1	12/28/20		
Benzo[a]anthracene	**0.41**	1	12/28/20	0.1	.041
Chrysene	**0.42**	1	12/28/20	0.001	.00042
Benzo[b]fluoranthene	**0.62**	1	12/28/20	0.1	.062
Benzo[k]fluoranthene	**0.24**	1	12/28/20	0.01	.0024
Benzo[a]pyrene	**0.55**	1	12/28/20	1	.55
Indeno[1,2,3-cd]pyrene	**0.38**	1	12/28/20	0.1	.038
Dibenz[a,h]anthracene	**0.090**	1	12/28/20	1	.09
Benzo[g,h,i]perylene	**0.34**	1	12/28/20		
p-Terphenyl-D14 (surr)	**59 %R**		12/28/20		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

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LABORATORY REPORT

EAI ID#: **220359**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Client Sample ID:	SB-103
Lab Sample ID:	220359.03
Matrix:	soil
Date Sampled:	12/21/20
Date Received:	12/22/20
Date Prepared:	12/23/20
Units	mg/kg
Method	8270D
Analyst	JMR

	Results	Dilution Factor	Date Analyzed	TEF	TEQ
Naphthalene	**0.046**	1	12/28/20		
2-Methylnaphthalene	**0.017**	1	12/28/20		
1-Methylnaphthalene	**0.013**	1	12/28/20		
Acenaphthylene	**0.47**	1	12/28/20		
Acenaphthene	**0.021**	1	12/28/20		
Fluorene	**0.091**	1	12/28/20		
Phenanthrene	**0.72**	1	12/28/20		
Anthracene	**0.29**	1	12/28/20		
Fluoranthene	**2.2**	1	12/28/20		
Pyrene	**1.8**	1	12/28/20		
Benzo[a]anthracene	**1.4**	1	12/28/20	0.1	.14
Chrysene	**1.4**	1	12/28/20	0.001	.0014
Benzo[b]fluoranthene	**2.4**	1	12/28/20	0.1	.24
Benzo[k]fluoranthene	**0.83**	1	12/28/20	0.01	.0083
Benzo[a]pyrene	**2.0**	1	12/28/20	1	2
Indeno[1,2,3-cd]pyrene	**0.94**	1	12/28/20	0.1	.094
Dibenz[a,h]anthracene	**0.24**	1	12/28/20	1	.24
Benzo[g,h,i]perylene	**0.77**	1	12/28/20		
p-Terphenyl-D14 (surr)	**66 %R**		12/28/20		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

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LABORATORY REPORT

EAI ID#: **220359**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Client Sample ID:	SB-104
Lab Sample ID:	220359.04
Matrix:	soil
Date Sampled:	12/21/20
Date Received:	12/22/20
Date Prepared:	12/23/20
Units	mg/kg
Method	8270D
Analyst	JMR

	Results	Dilution Factor	Date Analyzed	TEF	TEQ
Naphthalene	**0.22**	6	12/29/20		
2-Methylnaphthalene	**0.078**	6	12/29/20		
1-Methylnaphthalene	**0.073**	6	12/29/20		
Acenaphthylene	**2.1**	6	12/29/20		
Acenaphthene	**0.17**	6	12/29/20		
Fluorene	**0.55**	6	12/29/20		
Phenanthrene	**4.2**	6	12/29/20		
Anthracene	**1.4**	6	12/29/20		
Fluoranthene	**13**	6	12/29/20		
Pyrene	**12**	6	12/29/20		
Benzo[a]anthracene	**7.2**	6	12/29/20	0.1	.72
Chrysene	**7.1**	6	12/29/20	0.001	.0071
Benzo[b]fluoranthene	**11**	6	12/29/20	0.1	1.1
Benzo[k]fluoranthene	**3.7**	6	12/29/20	0.01	.037
Benzo[a]pyrene	**9.5**	6	12/29/20	1	9.5
Indeno[1,2,3-cd]pyrene	**8.0**	6	12/29/20	0.1	.8
Dibenz[a,h]anthracene	**1.8**	6	12/29/20	1	1.8
Benzo[g,h,i]perylene	**8.1**	6	12/29/20		
p-Terphenyl-D14 (surr)	**57 %R**		12/29/20		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

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LABORATORY REPORT

EAI ID#: **220359**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Client Sample ID:	SB-105
Lab Sample ID:	220359.05
Matrix:	soil
Date Sampled:	12/21/20
Date Received:	12/22/20
Date Prepared:	12/23/20
Units	mg/kg
Method	8270D
Analyst	JMR

	Results	Dilution Factor	Date Analyzed	TEF	TEQ
Naphthalene	< 0.02	3	12/28/20		
2-Methylnaphthalene	< 0.02	3	12/28/20		
1-Methylnaphthalene	< 0.02	3	12/28/20		
Acenaphthylene	**0.17**	3	12/28/20		
Acenaphthene	< 0.02	3	12/28/20		
Fluorene	**0.042**	3	12/28/20		
Phenanthrene	**0.52**	3	12/28/20		
Anthracene	**0.092**	3	12/28/20		
Fluoranthene	**1.1**	3	12/28/20		
Pyrene	**0.86**	3	12/28/20		
Benzo[a]anthracene	**0.44**	3	12/28/20	0.1	.044
Chrysene	**0.53**	3	12/28/20	0.001	.00053
Benzo[b]fluoranthene	**0.76**	3	12/28/20	0.1	.076
Benzo[k]fluoranthene	**0.28**	3	12/28/20	0.01	.0028
Benzo[a]pyrene	**0.59**	3	12/28/20	1	.59
Indeno[1,2,3-cd]pyrene	**0.24**	3	12/28/20	0.1	.024
Dibenz[a,h]anthracene	**0.060**	3	12/28/20	1	.06
Benzo[g,h,i]perylene	**0.20**	3	12/28/20		
p-Terphenyl-D14 (surr)	**58 %R**		12/28/20		

TEF: Toxicity Equivalent Factor
TEQ: Toxicity Equivalence to Benzo[a]pyrene
The TEF factors set forth in this report are taken from the following EPA document: "Mid- Atlantic Risk Assessment User's Guide: November 2013". This guidance document sets forth a recommended, but not mandatory approach based upon currently available information with respect to risk assessment for response actions at CERCLA sites. This document does not establish binding rules. This document contains the most current TEF values per VT IROCP.

Detection limits elevated in response to sample matrix and the lower initial mass used for analysis.

LABORATORY REPORT

EAI ID#: **220359**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Client Sample ID:	SB-106
Lab Sample ID:	220359.06
Matrix:	soil
Date Sampled:	12/21/20
Date Received:	12/22/20
Date Prepared:	12/23/20
Units	mg/kg
Method	8270D
Analyst	JMR

	Results	Dilution Factor	Date Analyzed	TEF	TEQ
Naphthalene	**0.10**	1	12/28/20		
2-Methylnaphthalene	**0.039**	1	12/28/20		
1-Methylnaphthalene	**0.031**	1	12/28/20		
Acenaphthylene	**1.3**	1	12/28/20		
Acenaphthene	**0.083**	1	12/28/20		
Fluorene	**0.30**	1	12/28/20		
Phenanthrene	**2.2**	1	12/28/20		
Anthracene	**0.99**	1	12/28/20		
Fluoranthene	**6.4**	1	12/28/20		
Pyrene	**4.8**	1	12/28/20		
Benzo[a]anthracene	**4.1**	1	12/28/20	0.1	.41
Chrysene	**4.0**	1	12/28/20	0.001	.004
Benzo[b]fluoranthene	**6.1**	1	12/28/20	0.1	.61
Benzo[k]fluoranthene	**2.4**	1	12/28/20	0.01	.024
Benzo[a]pyrene	**4.8**	1	12/28/20	1	4.8
Indeno[1,2,3-cd]pyrene	**1.5**	1	12/28/20	0.1	.15
Dibenz[a,h]anthracene	**0.43**	1	12/28/20	1	.43
Benzo[g,h,i]perylene	**1.1**	1	12/28/20		
p-Terphenyl-D14 (surr)	**45 %R**		12/28/20		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

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LABORATORY REPORT

EAI ID#: **220359**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Client Sample ID:	SB-107
Lab Sample ID:	220359.07
Matrix:	soil
Date Sampled:	12/21/20
Date Received:	12/22/20
Date Prepared:	12/23/20
Units	mg/kg
Method	8270D
Analyst	JMR

	Results	Dilution Factor	Date Analyzed	TEF	TEQ
Naphthalene	**0.0098**	1	12/28/20		
2-Methylnaphthalene	< 0.008	1	12/28/20		
1-Methylnaphthalene	< 0.008	1	12/28/20		
Acenaphthylene	**0.044**	1	12/28/20		
Acenaphthene	< 0.008	1	12/28/20		
Fluorene	**0.027**	1	12/28/20		
Phenanthrene	**0.23**	1	12/28/20		
Anthracene	**0.041**	1	12/28/20		
Fluoranthene	**0.33**	1	12/28/20		
Pyrene	**0.22**	1	12/28/20		
Benzo[a]anthracene	**0.12**	1	12/28/20	0.1	.012
Chrysene	**0.13**	1	12/28/20	0.001	.00013
Benzo[b]fluoranthene	**0.21**	1	12/28/20	0.1	.021
Benzo[k]fluoranthene	**0.081**	1	12/28/20	0.01	.00081
Benzo[a]pyrene	**0.16**	1	12/28/20	1	.16
Indeno[1,2,3-cd]pyrene	**0.065**	1	12/28/20	0.1	.0065
Dibenz[a,h]anthracene	**0.015**	1	12/28/20	1	.015
Benzo[g,h,i]perylene	**0.056**	1	12/28/20		
p-Terphenyl-D14 (surr)	**60 %R**		12/28/20		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

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LABORATORY REPORT

EAI ID#: **220359**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Client Sample ID:	SB-108
Lab Sample ID:	220359.08
Matrix:	soil
Date Sampled:	12/21/20
Date Received:	12/22/20
Date Prepared:	12/23/20
Units	mg/kg
Method	8270D
Analyst	JMR

	Results	Dilution Factor	Date Analyzed	TEF	TEQ
Naphthalene	< 0.008	1	12/28/20		
2-Methylnaphthalene	< 0.008	1	12/28/20		
1-Methylnaphthalene	< 0.008	1	12/28/20		
Acenaphthylene	**0.038**	1	12/28/20		
Acenaphthene	< 0.008	1	12/28/20		
Fluorene	< 0.008	1	12/28/20		
Phenanthrene	**0.036**	1	12/28/20		
Anthracene	**0.014**	1	12/28/20		
Fluoranthene	**0.098**	1	12/28/20		
Pyrene	**0.10**	1	12/28/20		
Benzo[a]anthracene	**0.055**	1	12/28/20	0.1	.0055
Chrysene	**0.063**	1	12/28/20	0.001	.000063
Benzo[b]fluoranthene	**0.079**	1	12/28/20	0.1	.0079
Benzo[k]fluoranthene	**0.028**	1	12/28/20	0.01	.00028
Benzo[a]pyrene	**0.070**	1	12/28/20	1	.07
Indeno[1,2,3-cd]pyrene	**0.025**	1	12/28/20	0.1	.0025
Dibenz[a,h]anthracene	< 0.008	1	12/28/20	1	< .008
Benzo[g,h,i]perylene	**0.024**	1	12/28/20		
p-Terphenyl-D14 (surr)	**55 %R**		12/28/20		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

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LABORATORY REPORT

EAI ID#: **220359**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Client Sample ID:	SB-109
Lab Sample ID:	220359.09
Matrix:	soil
Date Sampled:	12/21/20
Date Received:	12/22/20
Date Prepared:	12/23/20
Units	mg/kg
Method	8270D
Analyst	JMR

	Results	Dilution Factor	Date Analyzed	TEF	TEQ
Naphthalene	< 0.008	1	12/28/20		
2-Methylnaphthalene	< 0.008	1	12/28/20		
1-Methylnaphthalene	< 0.008	1	12/28/20		
Acenaphthylene	**0.016**	1	12/28/20		
Acenaphthene	< 0.008	1	12/28/20		
Fluorene	< 0.008	1	12/28/20		
Phenanthrene	**0.013**	1	12/28/20		
Anthracene	< 0.008	1	12/28/20		
Fluoranthene	**0.034**	1	12/28/20		
Pyrene	**0.031**	1	12/28/20		
Benzo[a]anthracene	**0.019**	1	12/28/20	0.1	.0019
Chrysene	**0.020**	1	12/28/20	0.001	.00002
Benzo[b]fluoranthene	**0.032**	1	12/28/20	0.1	.0032
Benzo[k]fluoranthene	**0.011**	1	12/28/20	0.01	.00011
Benzo[a]pyrene	**0.026**	1	12/28/20	1	.026
Indeno[1,2,3-cd]pyrene	**0.011**	1	12/28/20	0.1	.0011
Dibenz[a,h]anthracene	< 0.008	1	12/28/20	1	< .008
Benzo[g,h,i]perylene	**0.011**	1	12/28/20		
p-Terphenyl-D14 (surr)	**55 %R**		12/28/20		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

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LABORATORY REPORT

EAI ID#: **220359**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Client Sample ID:	SB-110
Lab Sample ID:	220359.1
Matrix:	soil
Date Sampled:	12/21/20
Date Received:	12/22/20
Date Prepared:	12/23/20
Units	mg/kg
Method	8270D
Analyst	JMR

	Results	Dilution Factor	Date Analyzed	TEF	TEQ
Naphthalene	< 0.008	1	12/28/20		
2-Methylnaphthalene	< 0.008	1	12/28/20		
1-Methylnaphthalene	< 0.008	1	12/28/20		
Acenaphthylene	**0.021**	1	12/28/20		
Acenaphthene	< 0.008	1	12/28/20		
Fluorene	< 0.008	1	12/28/20		
Phenanthrene	**0.021**	1	12/28/20		
Anthracene	**0.015**	1	12/28/20		
Fluoranthene	**0.023**	1	12/28/20		
Pyrene	**0.077**	1	12/28/20		
Benzo[a]anthracene	**0.011**	1	12/28/20	0.1	.0011
Chrysene	**0.021**	1	12/28/20	0.001	.000021
Benzo[b]fluoranthene	**0.024**	1	12/28/20	0.1	.0024
Benzo[k]fluoranthene	< 0.008	1	12/28/20	0.01	< .00008
Benzo[a]pyrene	**0.012**	1	12/28/20	1	.012
Indeno[1,2,3-cd]pyrene	**0.021**	1	12/28/20	0.1	.0021
Dibenz[a,h]anthracene	< 0.008	1	12/28/20	1	< .008
Benzo[g,h,i]perylene	**0.028**	1	12/28/20		
p-Terphenyl-D14 (surr)	**55 %R**		12/28/20		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

The TEF factors set forth in this report are taken from the following EPA document: "Mid- Atlantic Risk Assessment User's Guide: November 2013". This guidance document sets forth a recommended, but not mandatory approach based upon currently available information with respect to risk assessment for response actions at CERCLA sites. This document does not establish binding rules. This document contains the most current TEF values per VT IROCP.

LABORATORY REPORT

EAI ID#: **220359**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Client Sample ID:	Duplicate
Lab Sample ID:	220359.11
Matrix:	soil
Date Sampled:	12/21/20
Date Received:	12/22/20
Date Prepared:	12/23/20
Units	mg/kg
Method	8270D
Analyst	JMR

	Results	Dilution Factor	Date Analyzed	TEF	TEQ
Naphthalene	< 0.008	1	12/28/20		
2-Methylnaphthalene	< 0.008	1	12/28/20		
1-Methylnaphthalene	< 0.008	1	12/28/20		
Acenaphthylene	**0.017**	1	12/28/20		
Acenaphthene	< 0.008	1	12/28/20		
Fluorene	< 0.008	1	12/28/20		
Phenanthrene	**0.022**	1	12/28/20		
Anthracene	< 0.008	1	12/28/20		
Fluoranthene	**0.063**	1	12/28/20		
Pyrene	**0.052**	1	12/28/20		
Benzo[a]anthracene	**0.032**	1	12/28/20	0.1	.0032
Chrysene	**0.034**	1	12/28/20	0.001	.000034
Benzo[b]fluoranthene	**0.060**	1	12/28/20	0.1	.006
Benzo[k]fluoranthene	**0.023**	1	12/28/20	0.01	.00023
Benzo[a]pyrene	**0.047**	1	12/28/20	1	.047
Indeno[1,2,3-cd]pyrene	**0.023**	1	12/28/20	0.1	.0023
Dibenz[a,h]anthracene	< 0.008	1	12/28/20	1	< .008
Benzo[g,h,i]perylene	**0.022**	1	12/28/20		
p-Terphenyl-D14 (surr)	**52 %R**		12/28/20		

TEF: Toxicity Equivalent Factor

TEQ: Toxicity Equivalence to Benzo[a]pyrene

The TEF factors set forth in this report are taken from the following EPA document: "Mid- Atlantic Risk Assessment User's Guide: November 2013". This guidance document sets forth a recommended, but not mandatory approach based upon currently available information with respect to risk assessment for response actions at CERCLA sites. This document does not establish binding rules. This document contains the most current TEF values per VT IROCP.

QC REPORT

EAI ID#: **220359**

Client: **LE Environmental LLC**

Batch ID: 637443-07077/S122320PAH1

Client Designation: **Pigeon Property | 19-138**

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Naphthalene	< 0.007	1.2 (71 %R)	1.2 (72 %R) (2 RPD)	12/28/2020	mg/kg	40 - 140	30	8270D
2-Methylnaphthalene	< 0.007	1.2 (75 %R)	1.3 (76 %R) (2 RPD)	12/28/2020	mg/kg	40 - 140	30	8270D
1-Methylnaphthalene	< 0.007	1.2 (74 %R)	1.3 (75 %R) (2 RPD)	12/28/2020	mg/kg	40 - 140	30	8270D
Acenaphthylene	< 0.007	1.2 (74 %R)	1.3 (75 %R) (1 RPD)	12/28/2020	mg/kg	40 - 140	30	8270D
Acenaphthene	< 0.007	1.2 (74 %R)	1.2 (74 %R) (1 RPD)	12/28/2020	mg/kg	40 - 140	30	8270D
Fluorene	< 0.007	1.3 (78 %R)	1.3 (79 %R) (1 RPD)	12/28/2020	mg/kg	40 - 140	30	8270D
Phenanthrene	< 0.007	1.3 (76 %R)	1.3 (79 %R) (4 RPD)	12/28/2020	mg/kg	40 - 140	30	8270D
Anthracene	< 0.007	1.2 (74 %R)	1.3 (78 %R) (4 RPD)	12/28/2020	mg/kg	40 - 140	30	8270D
Fluoranthene	< 0.007	1.3 (76 %R)	1.3 (79 %R) (4 RPD)	12/28/2020	mg/kg	40 - 140	30	8270D
Pyrene	< 0.007	1.2 (71 %R)	1.2 (74 %R) (4 RPD)	12/28/2020	mg/kg	40 - 140	30	8270D
Benzo[a]anthracene	< 0.007	1.2 (72 %R)	1.3 (76 %R) (4 RPD)	12/28/2020	mg/kg	40 - 140	30	8270D
Chrysene	< 0.007	1.2 (72 %R)	1.3 (75 %R) (5 RPD)	12/28/2020	mg/kg	40 - 140	30	8270D
Benzo[b]fluoranthene	< 0.007	1.3 (78 %R)	1.4 (82 %R) (5 RPD)	12/28/2020	mg/kg	40 - 140	30	8270D
Benzo[k]fluoranthene	< 0.007	1.4 (81 %R)	1.4 (85 %R) (5 RPD)	12/28/2020	mg/kg	40 - 140	30	8270D
Benzo[a]pyrene	< 0.007	1.4 (83 %R)	1.5 (87 %R) (5 RPD)	12/28/2020	mg/kg	40 - 140	30	8270D
Indeno[1,2,3-cd]pyrene	< 0.007	1.4 (82 %R)	1.4 (86 %R) (5 RPD)	12/28/2020	mg/kg	40 - 140	30	8270D
Dibenz[a,h]anthracene	< 0.007	1.5 (87 %R)	1.5 (91 %R) (4 RPD)	12/28/2020	mg/kg	40 - 140	30	8270D
Benzo[g,h,i]perylene	< 0.007	1.3 (78 %R)	1.4 (82 %R) (5 RPD)	12/28/2020	mg/kg	40 - 140	30	8270D
p-Terphenyl-D14 (surr)	72 %R	72 %R	75 %R	12/28/2020	mg/kg	30 - 130		8270D

Samples were extracted and analyzed within holding time limits.
Instrumentation was calibrated in accordance with the method requirements.
The method blanks were free of contamination at the reporting limits.
Sample surrogate recoveries met the above stated criteria.
The associated matrix spikes and/or Laboratory Control Samples met acceptance criteria.
There were no exceptions in the analyses, unless noted.
*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted on the sample page, flagged analytes that exceed acceptance limits in the Quality Control sample do not impact the data.

Page 1 of 2

CHAIN-OF-CUSTODY RECORD

220359

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

				VOC				SVOC					TCLP	METALS		INORGANICS								MICRO		OTHER				
SAMPLE I.D.	SAMPLING DATE / TIME *IF COMPOSITE, INDICATE BOTH START & FINISH DATE / TIME	MATRIX (SEE BELOW)	GRAB/*COMPOSITE	524.2 524.2 BTEX 524.2 MTBE ONLY	8260 624 VTICs 1, 4 DIOXANE	8021 BTEX HALOS	8015 GRO MAVPH	8270 625 SVTICs EDB DBCP ABN A BN PAH (circled, "SL")	TPH8100 L1 L2	8015 DRO MAEPH	PEST 608 PCB 608 PEST 8081 PCB 8082	OIL & GREASE 1664 TPH 1664	TCLP 1311 ABN METALS VOC PEST HERB	DISSOLVED METALS (LIST BELOW)	TOTAL METALS (LIST BELOW)	TS TSS TDS SPEC. CON.	BR Cl F SO_4 NO_2 NO_3 NO_3NO_2	BOD CBOD T. ALK.	TKN NH_3 T. PHOS. O. PHOS.	pH T. RES. CHLORINE	COD PHENOLS TOC DOC	TOTAL CYANIDE TOTAL SULFIDE	REACTIVE CYANIDE REACTIVE SULFIDE FLASHPOINT IGNITABILITY	TOTAL COLIFORM E. COLI FECAL COLIFORM	ENTEROCOCCI HETEROTROPHIC PLATE COUNT				# OF CONTAINERS	NOTES MEOH VIAL #
SB-101	12/21/20 / 0925	S	G					X																					1	
SB-102	↓ / 1355	S	G					X																					1	
SB-103	/ 1345	S	G					X																					1	
SB-104	/ 1335	S	G					X																					1	
SB-105	/ 1330	S	G					X																					1	
SB-106	/ 1150	S	G					X																					1	
SB-107	/ 1115	S	G					X																					1	
SB-108	/ 1255	S	G					X																					1	
SB-109	/ 1235	S	G					X																					1	
SB-110	↓ / 1320	S	G					X																					1	

MATRIX: A-AIR; S-SOIL; GW-GROUND WATER; SW-SURFACE WATER; DW-DRINKING WATER; WW-WASTE WATER

PRESERVATIVE: H-HCL; N-HNO_3; S-H_2SO_4; Na-NaOH; M-MEOH

PROJECT MANAGER: Angela Emerson
COMPANY: LE Environmental LLC
ADDRESS: 21 North Main St, Unit #1
CITY: Waterbury STATE: VT ZIP: 05676
PHONE: 802-917-2001 EXT.:
FAX: —
E-MAIL: angela@leenv.net
SITE NAME: Pigeon Property
PROJECT #: 19-138
STATE: NH MA ME (VT circled) OTHER:
REGULATORY PROGRAM: NPDES: RGP POTW STORMWATER OR GWP, OIL FUND, BROWNFIELD OR (circled) OTHER:
QUOTE #: PO #:

DATE NEEDED: Normal TAT

QA/QC REPORTING LEVEL: A B C OR MA MCP

REPORTING OPTIONS: PRELIMS: YES OR NO

ELECTRONIC OPTIONS: E-MAIL PDF EQUIS EXCEL

TEMP. 3.5 °C ICE? YES (circled) NO

SAMPLER(S): Angela Emerson

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
[signature]	12/22/20	11:17	Shelly
Shelly	12/22/20	14:31	[signature]

METALS: 8 RCRA 13 PP FE, MN PB, CU
OTHER METALS:
SAMPLES FIELD FILTERED? ☐ YES ☐ NO
NOTES: (IE: SPECIAL DETECTION LIMITS, BILLING INFO, IF DIFFERENT)

SITE HISTORY:
SUSPECTED CONTAMINATION:
FIELD READINGS:

Eastern Analytical, Inc.
professional laboratory and drilling services
25 CHENELL DRIVE | CONCORD, NH 03301 | TEL: 603.228.0525 | 1.800.287.0525 | E-MAIL: CUSTOMERSERVICE@EASTERNANALYTICAL.COM | WWW.EASTERNANALYTICAL.COM

(WHITE: ORIGINAL GREEN: PROJECT MANAGER)

Page 2 of 2

CHAIN-OF-CUSTODY RECORD

220359

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

SAMPLE I.D.	SAMPLING DATE/TIME *IF COMPOSITE, INDICATE BOTH START & FINISH DATE/TIME	MATRIX (SEE BELOW)	GRAB/*COMPOSITE	VOC: 524.2 BTEX; 524.2 MTBE ONLY; 8260 BTEX; 624 VTICs; 1,4 DIOXANE; 8021 BTEX; 8021 HALOS; 8015 GRO; MAIPH	SVOC: 8270 SVTICs; 625 ABN; DBCP; EDB; PAH; BN; A; L1; L2; TPH8100; 8015 DRO; MAEPH; PEST 608; PCB 608; PEST 8081; PCB 8082; OIL & GREASE 1664; TPH 1664	TCLP: TCLP 1311; VOC; ABN; PEST; METALS; HERB	METALS: DISSOLVED METALS (LIST BELOW); TOTAL METALS (LIST BELOW)	INORGANICS: TS; TSS; TDS; SPEC. CON.; BR; CL; F; SO4; NO2; NO3; NO2,NO3; BOD; CBOD; T. ALK.; TKN; NH3; T. PHOS.; O. PHOS.; pH; T. RES. CHLORINE; COD; PHENOLS; TOC; DOC; TOTAL CYANIDE; TOTAL SULFIDE; REACTIVE CYANIDE; REACTIVE SULFIDE; FLASHPOINT; IGNITABILITY	MICRO: TOTAL COLIFORM; E. COLI; FECAL COLIFORM; ENTEROCOCCI; HETEROTROPHIC PLATE COUNT	OTHER	# OF CONTAINERS	NOTES MEOH VIAL #
Duplicate	12/21/20; 1115	S	G		X								1	

MATRIX: A-AIR; S-SOIL; GW-GROUND WATER; SW-SURFACE WATER; DW-DRINKING WATER; WW-WASTE WATER

PRESERVATIVE: H-HCL; N-HNO_3; S-H_2SO_4; Na-NaOH; M-MEOH

PROJECT MANAGER: Angela Emerson
COMPANY: LE Environmental LLC
ADDRESS: 21 North Main St, Unit #1
CITY: Waterbury STATE: VT ZIP: 05676
PHONE: 802-917-2001 EXT.:
FAX: —
E-MAIL: angela@leenv.net
SITE NAME: Pigeon Property
PROJECT #: 19-138
STATE: NH MA ME (VT) OTHER:
REGULATORY PROGRAM: NPDES: RGP POTW STORMWATER OR GWP, OIL FUND, (BROWNFIELD) OR OTHER:
QUOTE #: PO #:

DATE NEEDED: Normal TAT

QA/QC REPORTING LEVEL
A B C
OR
MA MCP

REPORTING OPTIONS
PRELIMS: YES OR NO

ELECTRONIC OPTIONS
E-MAIL PDF EQUIS EXCEL

TEMP. 3.5 °C
ICE? (YES) NO

SAMPLER(S): Angela Emerson			
RELINQUISHED BY: Angela Em	DATE: 12/22/20	TIME: 11:17	RECEIVED BY: Shelley
RELINQUISHED BY: Shelley	DATE: 12/22/20	TIME: 14:31	RECEIVED BY:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:

METALS: 8 RCRA 13 PP FE, MN PB, CU
OTHER METALS:
SAMPLES FIELD FILTERED? ☐ YES ☐ NO
NOTES: (IE: SPECIAL DETECTION LIMITS, BILLING INFO, IF DIFFERENT)

SITE HISTORY:
SUSPECTED CONTAMINATION:
FIELD READINGS:

Eastern Analytical, Inc.
professional laboratory and drilling services
25 CHENELL DRIVE | CONCORD, NH 03301 | TEL: 603.228.0525 | 1.800.287.0525 | E-MAIL: CUSTOMERSERVICE@EASTERNANALYTICAL.COM | WWW.EASTERNANALYTICAL.COM

(WHITE: ORIGINAL GREEN: PROJECT MANAGER)

Eastern Analytical, Inc.

professional laboratory and drilling services

Angela Emerson
LE Environmental LLC
21 North Main Street #1
Waterbury , VT 05676

Subject: Laboratory Report

Eastern Analytical, Inc. ID:	220966
Client Identification:	Pigeon Property | 19-138
Date Received:	1/8/2021

Dear Ms. Emerson :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.easternanalytical.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted
< : "less than" followed by the reporting limit
> : "greater than" followed by the reporting limit
%R : % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw — Lorraine Olashaw, Lab Director

1.14.21 — Date

10 — # of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: **220966**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Temperature upon receipt (°C): 2.8 **Received on ice or cold packs (Yes/No): Y**

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date/Time Sampled		Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
220966.01	MW-1	1/8/21	1/7/21	13:50	aqueous		Adheres to Sample Acceptance Policy
220966.02	MW-2	1/8/21	1/7/21	11:40	aqueous		Adheres to Sample Acceptance Policy
220966.03	MW-3	1/8/21	1/7/21	10:00	aqueous		Adheres to Sample Acceptance Policy
220966.04	MW-4	1/8/21	1/7/21	09:25	aqueous		Adheres to Sample Acceptance Policy
220966.05	MW-5	1/8/21	1/7/21	08:35	aqueous		Adheres to Sample Acceptance Policy
220966.06	MW-6	1/8/21	1/7/21	12:45	aqueous		Adheres to Sample Acceptance Policy
220966.07	MW-7	1/8/21	1/7/21	13:15	aqueous		Adheres to Sample Acceptance Policy
220966.08	MW-8	1/8/21	1/7/21	11:05	aqueous		Adheres to Sample Acceptance Policy
220966.09	Duplicate	1/8/21	1/7/21	11:40	aqueous		Adheres to Sample Acceptance Policy
220966.1	Trip Blank	1/8/21	10/26/20	7:15	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.
Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.
All results contained in this report relate only to the above listed samples.
References include:
1) EPA 600/4-79-020, 1983
2) Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd Edition or noted Revision year.
3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
4) Hach Water Analysis Handbook, 4th edition, 1992

LABORATORY REPORT

EAI ID#: **220966**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Sample ID:	MW-1	MW-2	MW-3	MW-4
Lab Sample ID:	220966.01	220966.02	220966.03	220966.04
Matrix:	aqueous	aqueous	aqueous	aqueous
Date Sampled:	1/7/21	1/7/21	1/7/21	1/7/21
Date Received:	1/8/21	1/8/21	1/8/21	1/8/21
Units:	ug/L	ug/L	ug/L	ug/L
Date of Analysis:	1/12/21	1/11/21	1/11/21	1/12/21
Analyst:	DGM	DGM	DGM	DGM
Method:	8260C	8260C	8260C	8260C
Dilution Factor:	100	1	1	1
Dichlorodifluoromethane	< 200	< 2	< 2	< 2
Chloromethane	< 200	< 2	< 2	< 2
Vinyl chloride	< 100	< 1	< 1	< 1
Bromomethane	< 200	< 2	< 2	< 2
Chloroethane	< 200	< 2	< 2	< 2
Trichlorofluoromethane	< 200	< 2	< 2	< 2
Diethyl Ether	< 200	< 2	< 2	< 2
Acetone	< 1000	< 10	< 10	< 10
1,1-Dichloroethene	< 50	< 0.5	< 0.5	< 0.5
Methylene chloride	< 100	< 1	< 1	< 1
Carbon disulfide	< 200	< 2	< 2	< 2
Methyl-t-butyl ether(MTBE)	**290**	< 1	< 1	< 1
trans-1,2-Dichloroethene	< 100	< 1	< 1	< 1
1,1-Dichloroethane	< 100	< 1	< 1	< 1
2,2-Dichloropropane	< 100	< 1	< 1	< 1
cis-1,2-Dichloroethene	< 100	< 1	< 1	< 1
2-Butanone(MEK)	< 1000	< 10	< 10	< 10
Bromochloromethane	< 100	< 1	< 1	< 1
Tetrahydrofuran(THF)	< 1000	< 10	< 10	< 10
Chloroform	< 100	< 1	< 1	< 1
1,1,1-Trichloroethane	< 100	< 1	< 1	< 1
Carbon tetrachloride	< 100	< 1	< 1	< 1
1,1-Dichloropropene	< 100	< 1	< 1	< 1
Benzene	**5900**	< 1	< 1	< 1
1,2-Dichloroethane	< 100	< 1	< 1	< 1
Trichloroethene	< 100	< 1	< 1	< 1
1,2-Dichloropropane	< 100	< 1	< 1	< 1
Dibromomethane	< 100	< 1	< 1	< 1
Bromodichloromethane	< 50	< 0.5	< 0.5	< 0.5
4-Methyl-2-pentanone(MIBK)	< 1000	< 10	< 10	< 10
cis-1,3-Dichloropropene	< 50	< 0.5	< 0.5	< 0.5
Toluene	**19000**	< 1	< 1	< 1
trans-1,3-Dichloropropene	< 50	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	< 100	< 1	< 1	< 1
2-Hexanone	< 1000	< 10	< 10	< 10
Tetrachloroethene	< 100	< 1	< 1	< 1
1,3-Dichloropropane	< 100	< 1	< 1	< 1
Dibromochloromethane	< 100	< 1	< 1	< 1
1,2-Dibromoethane(EDB)	< 50	< 0.5	< 0.5	< 0.5
Chlorobenzene	< 100	< 1	< 1	< 1
1,1,1,2-Tetrachloroethane	< 100	< 1	< 1	< 1
Ethylbenzene	**2900**	**2**	< 1	< 1
mp-Xylene	**15000**	< 1	< 1	< 1
o-Xylene	**6800**	< 1	< 1	< 1
Styrene	< 100	< 1	< 1	< 1
Bromoform	< 200	< 2	< 2	< 2

LABORATORY REPORT

EAI ID#: **220966**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Sample ID:	MW-1	MW-2	MW-3	MW-4
Lab Sample ID:	220966.01	220966.02	220966.03	220966.04
Matrix:	aqueous	aqueous	aqueous	aqueous
Date Sampled:	1/7/21	1/7/21	1/7/21	1/7/21
Date Received:	1/8/21	1/8/21	1/8/21	1/8/21
Units:	ug/L	ug/L	ug/L	ug/L
Date of Analysis:	1/12/21	1/11/21	1/11/21	1/12/21
Analyst:	DGM	DGM	DGM	DGM
Method:	8260C	8260C	8260C	8260C
Dilution Factor:	100	1	1	1
IsoPropylbenzene	**120**	< 1	< 1	< 1
Bromobenzene	< 100	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	< 100	< 1	< 1	< 1
1,2,3-Trichloropropane	< 50	< 0.5	< 0.5	< 0.5
n-Propylbenzene	**350**	< 1	< 1	< 1
2-Chlorotoluene	< 100	< 1	< 1	< 1
4-Chlorotoluene	< 100	< 1	< 1	< 1
1,3,5-Trimethylbenzene	**1000**	**1**	< 1	< 1
tert-Butylbenzene	< 100	< 1	< 1	< 1
1,2,4-Trimethylbenzene	**4300**	< 1	< 1	< 1
sec-Butylbenzene	< 100	< 1	< 1	< 1
1,3-Dichlorobenzene	< 100	< 1	< 1	< 1
1,2,3-Trimethylbenzene	**1100**	< 1	< 1	< 1
p-Isopropyltoluene	< 100	< 1	< 1	< 1
1,4-Dichlorobenzene	< 100	< 1	< 1	< 1
1,2-Dichlorobenzene	< 100	< 1	< 1	< 1
n-Butylbenzene	< 100	< 1	< 1	< 1
1,2-Dibromo-3-chloropropane	< 20	< 0.2	< 0.2	< 0.2
1,2,4-Trichlorobenzene	< 100	< 1	< 1	< 1
Hexachlorobutadiene	< 50	< 0.5	< 0.5	< 0.5
Naphthalene	**690**	< 0.5	< 0.5	< 0.5
1,2,3-Trichlorobenzene	< 50	< 0.5	< 0.5	< 0.5
4-Bromofluorobenzene (surr)	**99 %R**	**94 %R**	**95 %R**	**93 %R**
1,2-Dichlorobenzene-d4 (surr)	**98 %R**	**101 %R**	**99 %R**	**100 %R**
Toluene-d8 (surr)	**101 %R**	**101 %R**	**101 %R**	**102 %R**
1,2-Dichloroethane-d4 (surr)	**106 %R**	**108 %R**	**109 %R**	**109 %R**

trans-1,2-Dichloroethene exhibited recovery above acceptance limits in the Quality Control sample(s). The analyte(s) were not detected in the sample(s).

MW-1: The following analytes were not assessed down to the listed concentrations, 1,2-dibromoethane(EDB) (0.05ug/L), 1,2,3-Trichloropropane (0.02ug/L) due to sample dilution.

MW-2, MW-3, MW-4: The following analytes were assessed down to the listed concentrations, 1,2-dibromoethane(EDB) (0.05ug/L), 1,2,3-Trichloropropane (0.02ug/L). Detectable analytes are reported as J flags and should be considered estimated values.

LABORATORY REPORT

EAI ID#: **220966**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Sample ID:	MW-5	MW-6	MW-7	MW-8
Lab Sample ID:	220966.05	220966.06	220966.07	220966.08
Matrix:	aqueous	aqueous	aqueous	aqueous
Date Sampled:	1/7/21	1/7/21	1/7/21	1/7/21
Date Received:	1/8/21	1/8/21	1/8/21	1/8/21
Units:	ug/L	ug/L	ug/L	ug/L
Date of Analysis:	1/12/21	1/12/21	1/12/21	1/12/21
Analyst:	DGM	DGM	DGM	DGM
Method:	8260C	8260C	8260C	8260C
Dilution Factor:	1	1	1	1
Dichlorodifluoromethane	< 2	< 2	< 2	< 2
Chloromethane	< 2	< 2	< 2	< 2
Vinyl chloride	< 1	< 1	< 1	< 1
Bromomethane	< 2	< 2	< 2	< 2
Chloroethane	< 2	< 2	< 2	< 2
Trichlorofluoromethane	< 2	< 2	< 2	< 2
Diethyl Ether	< 2	< 2	< 2	< 2
Acetone	< 10	< 10	< 10	< 10
1,1-Dichloroethene	< 0.5	< 0.5	< 0.5	< 0.5
Methylene chloride	< 1	< 1	< 1	< 1
Carbon disulfide	< 2	< 2	< 2	< 2
Methyl-t-butyl ether(MTBE)	< 1	< 1	< 1	< 1
trans-1,2-Dichloroethene	< 1	< 1	< 1	< 1
1,1-Dichloroethane	< 1	< 1	< 1	< 1
2,2-Dichloropropane	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	< 1	< 1	< 1	< 1
2-Butanone(MEK)	< 10	< 10	< 10	< 10
Bromochloromethane	< 1	< 1	< 1	< 1
Tetrahydrofuran(THF)	< 10	< 10	< 10	< 10
Chloroform	< 1	< 1	< 1	< 1
1,1,1-Trichloroethane	< 1	< 1	< 1	< 1
Carbon tetrachloride	< 1	< 1	< 1	< 1
1,1-Dichloropropene	< 1	< 1	< 1	< 1
Benzene	< 1	< 1	< 1	< 1
1,2-Dichloroethane	< 1	< 1	< 1	< 1
Trichloroethene	< 1	< 1	< 1	< 1
1,2-Dichloropropane	< 1	< 1	< 1	< 1
Dibromomethane	< 1	< 1	< 1	< 1
Bromodichloromethane	< 0.5	< 0.5	< 0.5	< 0.5
4-Methyl-2-pentanone(MIBK)	< 10	< 10	< 10	< 10
cis-1,3-Dichloropropene	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	< 1	< 1	< 1	< 1
trans-1,3-Dichloropropene	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	< 1	< 1	< 1	< 1
2-Hexanone	< 10	< 10	< 10	< 10
Tetrachloroethene	< 1	< 1	< 1	< 1
1,3-Dichloropropane	< 1	< 1	< 1	< 1
Dibromochloromethane	< 1	< 1	< 1	< 1
1,2-Dibromoethane(EDB)	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	< 1	< 1	< 1	< 1
1,1,1,2-Tetrachloroethane	< 1	< 1	< 1	< 1
Ethylbenzene	< 1	< 1	< 1	< 1
mp-Xylene	< 1	< 1	< 1	< 1
o-Xylene	< 1	< 1	< 1	< 1
Styrene	< 1	< 1	< 1	< 1
Bromoform	< 2	< 2	< 2	< 2

LABORATORY REPORT

EAI ID#: **220966**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Sample ID:	MW-5	MW-6	MW-7	MW-8
Lab Sample ID:	220966.05	220966.06	220966.07	220966.08
Matrix:	aqueous	aqueous	aqueous	aqueous
Date Sampled:	1/7/21	1/7/21	1/7/21	1/7/21
Date Received:	1/8/21	1/8/21	1/8/21	1/8/21
Units:	ug/L	ug/L	ug/L	ug/L
Date of Analysis:	1/12/21	1/12/21	1/12/21	1/12/21
Analyst:	DGM	DGM	DGM	DGM
Method:	8260C	8260C	8260C	8260C
Dilution Factor:	1	1	1	1
IsoPropylbenzene	< 1	**1.1**	< 1	< 1
Bromobenzene	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	< 1	< 1	< 1	< 1
1,2,3-Trichloropropane	< 0.5	< 0.5	< 0.5	< 0.5
n-Propylbenzene	< 1	**2.3**	< 1	< 1
2-Chlorotoluene	< 1	< 1	< 1	< 1
4-Chlorotoluene	< 1	< 1	< 1	< 1
1,3,5-Trimethylbenzene	< 1	< 1	< 1	< 1
tert-Butylbenzene	< 1	< 1	< 1	< 1
1,2,4-Trimethylbenzene	< 1	< 1	< 1	< 1
sec-Butylbenzene	< 1	< 1	< 1	< 1
1,3-Dichlorobenzene	< 1	< 1	< 1	< 1
1,2,3-Trimethylbenzene	< 1	< 1	< 1	< 1
p-Isopropyltoluene	< 1	< 1	< 1	< 1
1,4-Dichlorobenzene	< 1	< 1	< 1	< 1
1,2-Dichlorobenzene	< 1	< 1	< 1	< 1
n-Butylbenzene	< 1	< 1	< 1	< 1
1,2-Dibromo-3-chloropropane	< 0.2	< 0.2	< 0.2	< 0.2
1,2,4-Trichlorobenzene	< 1	< 1	< 1	< 1
Hexachlorobutadiene	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	< 0.5	< 0.5	< 0.5	**2.9**
1,2,3-Trichlorobenzene	< 0.5	< 0.5	< 0.5	< 0.5
4-Bromofluorobenzene (surr)	**93 %R**	**95 %R**	**93 %R**	**93 %R**
1,2-Dichlorobenzene-d4 (surr)	**100 %R**	**101 %R**	**101 %R**	**101 %R**
Toluene-d8 (surr)	**102 %R**	**101 %R**	**102 %R**	**101 %R**
1,2-Dichloroethane-d4 (surr)	**110 %R**	**109 %R**	**109 %R**	**109 %R**

trans-1,2-Dichloroethene exhibited recovery above acceptance limits in the Quality Control sample(s). The analyte(s) were not detected in the sample(s).

The following analytes were assessed down to the listed concentrations, 1,2-dibromoethane(EDB) (0.05ug/L), 1,2,3-Trichloropropane (0.02ug/L). Detectable analytes are reported as J flags and should be considered estimated values.

LABORATORY REPORT

EAI ID#: **220966**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Sample ID:	Duplicate	Trip Blank
Lab Sample ID:	220966.09	220966.1
Matrix:	aqueous	aqueous
Date Sampled:	1/7/21	10/26/20
Date Received:	1/8/21	1/8/21
Units:	ug/L	ug/L
Date of Analysis:	1/12/21	1/11/21
Analyst:	DGM	DGM
Method:	8260C	8260C
Dilution Factor:	1	1
Dichlorodifluoromethane	< 2	< 2
Chloromethane	< 2	< 2
Vinyl chloride	< 1	< 1
Bromomethane	< 2	< 2
Chloroethane	< 2	< 2
Trichlorofluoromethane	< 2	< 2
Diethyl Ether	< 2	< 2
Acetone	< 10	< 10
1,1-Dichloroethene	< 0.5	< 0.5
Methylene chloride	< 1	< 1
Carbon disulfide	< 2	< 2
Methyl-t-butyl ether(MTBE)	< 1	< 1
trans-1,2-Dichloroethene	< 1	< 1
1,1-Dichloroethane	< 1	< 1
2,2-Dichloropropane	< 1	< 1
cis-1,2-Dichloroethene	< 1	< 1
2-Butanone(MEK)	< 10	< 10
Bromochloromethane	< 1	< 1
Tetrahydrofuran(THF)	< 10	< 10
Chloroform	< 1	< 1
1,1,1-Trichloroethane	< 1	< 1
Carbon tetrachloride	< 1	< 1
1,1-Dichloropropene	< 1	< 1
Benzene	< 1	< 1
1,2-Dichloroethane	< 1	< 1
Trichloroethene	< 1	< 1
1,2-Dichloropropane	< 1	< 1
Dibromomethane	< 1	< 1
Bromodichloromethane	< 0.5	< 0.5
4-Methyl-2-pentanone(MIBK)	< 10	< 10
cis-1,3-Dichloropropene	< 0.5	< 0.5
Toluene	< 1	< 1
trans-1,3-Dichloropropene	< 0.5	< 0.5
1,1,2-Trichloroethane	< 1	< 1
2-Hexanone	< 10	< 10
Tetrachloroethene	< 1	< 1
1,3-Dichloropropane	< 1	< 1
Dibromochloromethane	< 1	< 1
1,2-Dibromoethane(EDB)	< 0.5	< 0.5
Chlorobenzene	< 1	< 1
1,1,1,2-Tetrachloroethane	< 1	< 1
Ethylbenzene	**2.1**	< 1
mp-Xylene	< 1	< 1
o-Xylene	< 1	< 1
Styrene	< 1	< 1
Bromoform	< 2	< 2

LABORATORY REPORT

EAI ID#: **220966**

Client: **LE Environmental LLC**

Client Designation: **Pigeon Property | 19-138**

Sample ID:	Duplicate	Trip Blank
Lab Sample ID:	220966.09	220966.1
Matrix:	aqueous	aqueous
Date Sampled:	1/7/21	10/26/20
Date Received:	1/8/21	1/8/21
Units:	ug/L	ug/L
Date of Analysis:	1/12/21	1/11/21
Analyst:	DGM	DGM
Method:	8260C	8260C
Dilution Factor:	1	1
IsoPropylbenzene	< 1	< 1
Bromobenzene	< 1	< 1
1,1,2,2-Tetrachloroethane	< 1	< 1
1,2,3-Trichloropropane	< 0.5	< 0.5
n-Propylbenzene	< 1	< 1
2-Chlorotoluene	< 1	< 1
4-Chlorotoluene	< 1	< 1
1,3,5-Trimethylbenzene	**1.1**	< 1
tert-Butylbenzene	**1.2**	< 1
1,2,4-Trimethylbenzene	< 1	< 1
sec-Butylbenzene	**1.2**	< 1
1,3-Dichlorobenzene	< 1	< 1
1,2,3-Trimethylbenzene	< 1	< 1
p-Isopropyltoluene	< 1	< 1
1,4-Dichlorobenzene	< 1	< 1
1,2-Dichlorobenzene	< 1	< 1
n-Butylbenzene	< 1	< 1
1,2-Dibromo-3-chloropropane	< 0.2	< 0.2
1,2,4-Trichlorobenzene	< 1	< 1
Hexachlorobutadiene	< 0.5	< 0.5
Naphthalene	< 0.5	< 0.5
1,2,3-Trichlorobenzene	< 0.5	< 0.5
4-Bromofluorobenzene (surr)	**95 %R**	**92 %R**
1,2-Dichlorobenzene-d4 (surr)	**101 %R**	**101 %R**
Toluene-d8 (surr)	**102 %R**	**102 %R**
1,2-Dichloroethane-d4 (surr)	**109 %R**	**108 %R**

trans-1,2-Dichloroethene exhibited recovery above acceptance limits in the Quality Control sample(s). The analyte(s) were not detected in the sample(s).

The following analytes were assessed down to the listed concentrations, 1,2-dibromoethane(EDB) (0.05ug/L), 1,2,3-Trichloropropane (0.02ug/L). Detectable analytes are reported as J flags and should be considered estimated values.

QC REPORT

EAI ID#: **220966**

Client: **LE Environmental LLC**

Batch ID: 63746148938

Client Designation: **Pigeon Property | 19-138**

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Dichlorodifluoromethane	< 2	* 32 (161 %R)	31 (153 %R) (5 RPD)	1/11/2021	ug/L	40 - 160	20	8260C
Chloromethane	< 2	28 (141 %R)	27 (136 %R) (4 RPD)	1/11/2021	ug/L	40 - 160	20	8260C
Vinyl chloride	< 1	* 28 (142 %R)	* 27 (136 %R) (5 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Bromomethane	< 2	25 (124 %R)	24 (118 %R) (6 RPD)	1/11/2021	ug/L	40 - 160	20	8260C
Chloroethane	< 2	23 (113 %R)	22 (109 %R) (4 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Trichlorofluoromethane	< 2	22 (112 %R)	22 (108 %R) (4 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Diethyl Ether	< 2	19 (96 %R)	19 (95 %R) (1 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Acetone	< 10	19 (94 %R)	19 (97 %R) (3 RPD)	1/11/2021	ug/L	40 - 160	20	8260C
1,1-Dichloroethene	< 0.5	19 (96 %R)	19 (93 %R) (3 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Methylene chloride	< 1	19 (95 %R)	18 (92 %R) (2 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Carbon disulfide	< 2	19 (95 %R)	18 (91 %R) (4 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Methyl-t-butyl ether(MTBE)	< 1	19 (94 %R)	19 (93 %R) (1 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
trans-1,2-Dichloroethene	< 1	23 (117 %R)	19 (95 %R) (22 RPD) !	1/11/2021	ug/L	70 - 130	20	8260C
1,1-Dichloroethane	< 1	21 (107 %R)	21 (103 %R) (4 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
2,2-Dichloropropane	< 1	23 (116 %R)	22 (109 %R) (6 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
cis-1,2-Dichloroethene	< 1	21 (107 %R)	21 (103 %R) (4 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
2-Butanone(MEK)	< 10	21 (107 %R)	21 (105 %R) (2 RPD)	1/11/2021	ug/L	40 - 160	20	8260C
Bromochloromethane	< 1	20 (101 %R)	20 (99 %R) (2 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Tetrahydrofuran(THF)	< 10	22 (109 %R)	22 (108 %R) (0 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Chloroform	< 1	20 (98 %R)	19 (95 %R) (3 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,1,1-Trichloroethane	< 1	20 (102 %R)	20 (98 %R) (4 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Carbon tetrachloride	< 1	20 (101 %R)	19 (96 %R) (5 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,1-Dichloropropene	< 1	20 (102 %R)	19 (97 %R) (5 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Benzene	< 1	20 (102 %R)	20 (98 %R) (4 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,2-Dichloroethane	< 1	21 (103 %R)	20 (100 %R) (2 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Trichloroethene	< 1	20 (100 %R)	19 (96 %R) (4 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,2-Dichloropropane	< 1	21 (105 %R)	21 (103 %R) (3 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Dibromomethane	< 1	20 (102 %R)	20 (100 %R) (1 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Bromodichloromethane	< 0.5	21 (106 %R)	21 (105 %R) (2 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
4-Methyl-2-pentanone(MIBK)	< 10	21 (105 %R)	19 (94 %R) (11 RPD)	1/11/2021	ug/L	40 - 160	20	8260C
cis-1,3-Dichloropropene	< 0.5	21 (105 %R)	21 (103 %R) (2 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Toluene	< 1	21 (104 %R)	20 (101 %R) (3 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
trans-1,3-Dichloropropene	< 0.5	26 (130 %R)	23 (117 %R) (11 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,1,2-Trichloroethane	< 1	20 (102 %R)	20 (101 %R) (1 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
2-Hexanone	< 10	22 (111 %R)	17 (87 %R) (24 RPD) !	1/11/2021	ug/L	40 - 160	20	8260C
Tetrachloroethene	< 1	19 (97 %R)	19 (93 %R) (4 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,3-Dichloropropane	< 1	20 (102 %R)	20 (101 %R) (1 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Dibromochloromethane	< 1	21 (106 %R)	21 (106 %R) (0 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,2-Dibromoethane(EDB)	< 0.5	21 (103 %R)	21 (103 %R) (0 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Chlorobenzene	< 1	20 (101 %R)	20 (99 %R) (2 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,1,1,2-Tetrachloroethane	< 1	20 (102 %R)	20 (101 %R) (2 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Ethylbenzene	< 1	21 (105 %R)	20 (102 %R) (3 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
mp-Xylene	< 1	41 (103 %R)	40 (100 %R) (3 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
o-Xylene	< 1	21 (106 %R)	21 (103 %R) (3 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Styrene	< 1	20 (101 %R)	20 (100 %R) (2 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Bromoform	< 2	21 (105 %R)	21 (106 %R) (1 RPD)	1/11/2021	ug/L	70 - 130	20	8260C

QC REPORT

EAI ID#: **220966**

Client: **LE Environmental LLC**

Batch ID: 63746148938

Client Designation: **Pigeon Property | 19-138**

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
IsoPropylbenzene	< 1	21 (107 %R)	21 (103 %R) (3 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Bromobenzene	< 1	21 (104 %R)	20 (102 %R) (2 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,1,2,2-Tetrachloroethane	< 1	20 (102 %R)	20 (102 %R) (0 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,2,3-Trichloropropane	< 0.5	19 (97 %R)	19 (97 %R) (0 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
n-Propylbenzene	< 1	21 (107 %R)	21 (103 %R) (3 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
2-Chlorotoluene	< 1	21 (105 %R)	20 (102 %R) (3 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
4-Chlorotoluene	< 1	21 (106 %R)	21 (104 %R) (2 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,3,5-Trimethylbenzene	< 1	19 (95 %R)	18 (92 %R) (3 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
tert-Butylbenzene	< 1	21 (104 %R)	20 (101 %R) (4 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,2,4-Trimethylbenzene	< 1	22 (109 %R)	21 (105 %R) (3 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
sec-Butylbenzene	< 1	22 (110 %R)	21 (106 %R) (4 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,3-Dichlorobenzene	< 1	21 (103 %R)	20 (101 %R) (2 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,2,3-Trimethylbenzene	< 1	21 (106 %R)	21 (103 %R) (3 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
p-Isopropyltoluene	< 1	22 (108 %R)	21 (104 %R) (4 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,4-Dichlorobenzene	< 1	20 (101 %R)	20 (98 %R) (2 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,2-Dichlorobenzene	< 1	20 (102 %R)	20 (99 %R) (3 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
n-Butylbenzene	< 1	22 (111 %R)	21 (106 %R) (5 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,2-Dibromo-3-chloropropane	< 0.2	22 (110 %R)	22 (109 %R) (1 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,2,4-Trichlorobenzene	< 1	19 (97 %R)	19 (95 %R) (3 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Hexachlorobutadiene	< 0.5	19 (94 %R)	18 (90 %R) (4 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
Naphthalene	< 0.5	21 (106 %R)	21 (104 %R) (1 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
1,2,3-Trichlorobenzene	< 0.5	19 (97 %R)	19 (96 %R) (1 RPD)	1/11/2021	ug/L	70 - 130	20	8260C
4-Bromofluorobenzene (surr)	92 %R	98 %R	96 %R	1/11/2021	% Rec	70 - 130	50	8260C
1,2-Dichlorobenzene-d4 (surr)	99 %R	115 %R	112 %R	1/11/2021	% Rec	70 - 130	50	8260C
Toluene-d8 (surr)	104 %R	102 %R	102 %R	1/11/2021	% Rec	70 - 130	50	8260C
1,2-Dichloroethane-d4 (surr)	107 %R	104 %R	103 %R	1/11/2021	% Rec	70 - 130	20	8260C

Samples were extracted and analyzed within holding time limits.
Instrumentation was calibrated in accordance with the method requirements.
The method blanks were free of contamination at the reporting limits.
Sample surrogate recoveries met the above stated criteria.
The associated matrix spikes and/or Laboratory Control Samples met acceptance criteria.
There were no exceptions in the analyses, unless noted.
*/!Flagged analyte recoveries deviated from the QA/QC limits. Unless noted on the sample page, flagged analytes that exceed acceptance limits in the Quality Control sample do not impact the data.

Page 1 of 1

CHAIN-OF-CUSTODY RECORD

220966

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

SAMPLE I.D.	SAMPLING DATE/TIME *IF COMPOSITE, INDICATE BOTH START & FINISH DATE/TIME	MATRIX (SEE BELOW)	GRAB/*COMPOSITE	VOC: 524.2 524.2 BTEX 8260 524.2 MTBE ONLY; 624 VTICS; 624 1, 4 DIOXANE; 8021 BTEX HALOS; 8015 GRO MAVPH	SVOC: 8270 625 SVTICS EDB DBCP ABN A BN PAH; TPH8100 L1 L2; 8015 DRO MAEPH; PEST 608 PCB 608 PEST 8081 PCB 8082; OIL & GREASE 1664 TPH 1664	TCLP: TCLP 1311 ABN METALS VOC PEST HERB	METALS: DISSOLVED METALS (LIST BELOW); TOTAL METALS (LIST BELOW)	INORGANICS: TS TSS TDS SPEC. CON.; BR CL F SO_4 NO_2 NO_3 NO_2-NO_3; BOD CBOD T. ALK.; TKN NH_3 T. PHOS. O. PHOS.; PH T. RES. CHLORINE; COD PHENOLS TOC DOC; TOTAL CYANIDE TOTAL SULFIDE; REACTIVE CYANIDE REACTIVE SULFIDE FLASHPOINT IGNITABILITY	MICRO: TOTAL COLIFORM E. COLI FECAL COLIFORM; ENTEROCOCCI HETEROTROPHIC PLATE COUNT	OTHER	# OF CONTAINERS	NOTES MEOH VIAL #
MW-1	1/7/21 ; 1350	GW	G	X								3
MW-2	1/7/21 ; 1140	GW	G	X								3
MW-3	1/7/21 ; 1000	GW	G	X								2
MW-4	1/7/21 ; 0925	GW	G	X								3
MW-5	1/7/21 ; 0835	GW	G	X								3
MW-6	1/7/21 ; 1245	GW	G	X								3
MW-7	1/7/21 ; 1315	GW	G	X								3
MW-8	1/7/21 ; 1105	GW	G	X								3
Duplicate	1/7/21 ; 1140	GW	G	X								3
Trip Blank	10/26/20 ; 0715	GW	G	X								2

MATRIX: A-AIR; S-SOIL; GW-GROUND WATER; SW-SURFACE WATER; DW-DRINKING WATER; WW-WASTE WATER

PRESERVATIVE: H-HCL; N-HNO_3; S-H_2SO_4; Na-NaOH; M-MEOH

PROJECT MANAGER: Angela Emerson

COMPANY: LE Environmental LLC

ADDRESS: 21 N Main St, Unit #1

CITY: Waterbury STATE: VT ZIP: 05676

PHONE: 802-917-2001 EXT.:

FAX: —

E-MAIL: angela@leenv.net

SITE NAME: PIGEON PROPERTY

PROJECT #: 19-138

STATE: NH MA ME (VT) OTHER:

REGULATORY PROGRAM: NPDES: RGP POTW STORMWATER OR GWP, OIL FUND, (BROWNFIELD) OR OTHER:

QUOTE #: PO #:

DATE NEEDED: Normal TAT

QA/QC REPORTING LEVEL: A B C OR MA MCP

REPORTING OPTIONS: PRELIMS: YES OR NO

ELECTRONIC OPTIONS: E-MAIL PDF EQUIS EXCEL

TEMP: 2.8 °C

ICE? (YES) NO

SAMPLER(S): Angela Emerson 1-8-21

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
Angela Emerson	1/8/21		BoBH
BoBH	1-8-21	1330	
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:

METALS: 8 RCRA 13 PP FE, MN PB, CU

OTHER METALS:

SAMPLES FIELD FILTERED? ☐ YES ☐ NO

NOTES: (IE: SPECIAL DETECTION LIMITS, BILLING INFO, IF DIFFERENT)

SITE HISTORY:

SUSPECTED CONTAMINATION:

FIELD READINGS:

Eastern Analytical, Inc.
professional laboratory and drilling services
25 CHENELL DRIVE | CONCORD, NH 03301 | TEL: 603.228.0525 | 1.800.287.0525 | E-MAIL: CUSTOMERSERVICE@EASTERNANALYTICAL.COM | WWW.EASTERNANALYTICAL.COM

(WHITE: ORIGINAL GREEN: PROJECT MANAGER)

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January 20, 2021

Angela Emerson
LE Environmental
21 North Main Street #1
Waterbury, VT 05676

Project Location: Westford, VT
Client Job Number:
Project Number: 19-138
Laboratory Work Order Number: 21A0105

Enclosed are results of analyses for samples received by the laboratory on January 6, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Raymond J. McCarthy
Project Manager

Table of Contents

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

LE Environmental
21 North Main Street #1
Waterbury, VT 05676
ATTN: Angela Emerson

REPORT DATE: 1/20/2021

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 19-138

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 21A0105

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Westford, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
VP-1	21A0105-01	Soil Gas		EPA TO-15	
VP-2	21A0105-02	Soil Gas		EPA TO-15	
SG-3	21A0105-03	Soil Gas		EPA TO-15	
Ambient	21A0105-04	Indoor air		EPA TO-15	
SG-2	21A0105-05	Soil Gas		EPA TO-15	
SG-4	21A0105-06	Soil Gas		EPA TO-15	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA TO-15

Qualifications:

V-34

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

Analyte & Samples(s) Qualified:

1,2,4-Trichlorobenzene

21A0105-01[VP-1], 21A0105-02[VP-2], 21A0105-03[SG-3], 21A0105-04[Ambient], 21A0105-05[SG-2], 21A0105-06[SG-4], B274844-BLK1, B274844-BS1, B274844-DUP1, S056311-CCV1

Z-01

Compound fails the method requirement of 70-130% recovery for the LCS. Is classified by the lab as a difficult compound and passes the in house limits of 50-150%.

Analyte & Samples(s) Qualified:

1,2,4-Trichlorobenzene

21A0105-01[VP-1], 21A0105-02[VP-2], 21A0105-03[SG-3], 21A0105-04[Ambient], 21A0105-05[SG-2], 21A0105-06[SG-4], B274844-BLK1, B274844-BS1, B274844-DUP1

Naphthalene

21A0105-01[VP-1], 21A0105-02[VP-2], 21A0105-03[SG-3], 21A0105-04[Ambient], 21A0105-05[SG-2], 21A0105-06[SG-4], B274844-BLK1, B274844-BS1, B274844-DUP1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Technical Representative

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ANALYTICAL RESULTS

Project Location: Westford, VT
Date Received: 1/6/2021
Field Sample #: VP-1
Sample ID: 21A0105-01
Sample Matrix: Soil Gas
Sampled: 1/5/2021 01:42

Sample Description/Location:
Sub Description/Location:
Canister ID: 2061
Canister Size: 6 liter
Flow Controller ID: 4410
Sample Type: 2 hr

Work Order: 21A0105
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -5
Receipt Vacuum(in Hg): -5.3
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	Results	RL	Flag/Qual	Results	RL	Dilution	Analyzed	Analyst
Acetone	68	4.0		160	9.5	2	1/18/21 14:44	BRF
Benzene	ND	0.10		ND	0.32	2	1/18/21 14:44	BRF
Benzyl chloride	ND	0.10		ND	0.52	2	1/18/21 14:44	BRF
Bromodichloromethane	ND	0.10		ND	0.67	2	1/18/21 14:44	BRF
Bromoform	ND	0.10		ND	1.0	2	1/18/21 14:44	BRF
Bromomethane	ND	0.10		ND	0.39	2	1/18/21 14:44	BRF
1,3-Butadiene	ND	0.10		ND	0.22	2	1/18/21 14:44	BRF
2-Butanone (MEK)	ND	4.0		ND	12	2	1/18/21 14:44	BRF
Carbon Disulfide	ND	1.0		ND	3.1	2	1/18/21 14:44	BRF
Carbon Tetrachloride	ND	0.10		ND	0.63	2	1/18/21 14:44	BRF
Chlorobenzene	ND	0.10		ND	0.46	2	1/18/21 14:44	BRF
Chloroethane	ND	0.10		ND	0.26	2	1/18/21 14:44	BRF
Chloroform	ND	0.10		ND	0.49	2	1/18/21 14:44	BRF
Chloromethane	ND	0.20		ND	0.41	2	1/18/21 14:44	BRF
Cyclohexane	ND	0.10		ND	0.34	2	1/18/21 14:44	BRF
Dibromochloromethane	ND	0.10		ND	0.85	2	1/18/21 14:44	BRF
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	1/18/21 14:44	BRF
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	1/18/21 14:44	BRF
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	1/18/21 14:44	BRF
1,4-Dichlorobenzene	ND	0.10		ND	0.60	2	1/18/21 14:44	BRF
Dichlorodifluoromethane (Freon 12)	ND	0.10		ND	0.49	2	1/18/21 14:44	BRF
1,1-Dichloroethane	ND	0.10		ND	0.40	2	1/18/21 14:44	BRF
1,2-Dichloroethane	ND	0.10		ND	0.40	2	1/18/21 14:44	BRF
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	1/18/21 14:44	BRF
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	1/18/21 14:44	BRF
trans-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	1/18/21 14:44	BRF
1,2-Dichloropropane	ND	0.10		ND	0.46	2	1/18/21 14:44	BRF
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	1/18/21 14:44	BRF
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	1/18/21 14:44	BRF
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10		ND	0.70	2	1/18/21 14:44	BRF
1,4-Dioxane	ND	1.0		ND	3.6	2	1/18/21 14:44	BRF
Ethanol	130	8.0		250	15	4	1/19/21 7:02	BRF
Ethyl Acetate	ND	1.0		ND	3.6	2	1/18/21 14:44	BRF
Ethylbenzene	0.11	0.10		0.47	0.43	2	1/18/21 14:44	BRF
4-Ethyltoluene	ND	0.10		ND	0.49	2	1/18/21 14:44	BRF
Heptane	ND	0.10		ND	0.41	2	1/18/21 14:44	BRF
Hexachlorobutadiene	ND	0.10		ND	1.1	2	1/18/21 14:44	BRF

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ANALYTICAL RESULTS

Project Location: Westford, VT
Date Received: 1/6/2021
Field Sample #: VP-1
Sample ID: 21A0105-01
Sample Matrix: Soil Gas
Sampled: 1/5/2021 01:42

Sample Description/Location:
Sub Description/Location:
Canister ID: 2061
Canister Size: 6 liter
Flow Controller ID: 4410
Sample Type: 2 hr

Work Order: 21A0105
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -5
Receipt Vacuum(in Hg): -5.3
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
Hexane	ND	4.0		ND	14	2	1/18/21 14:44	BRF
2-Hexanone (MBK)	ND	0.20		ND	0.82	2	1/18/21 14:44	BRF
Isopropanol	8.4	4.0		21	9.8	2	1/18/21 14:44	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.10		ND	0.36	2	1/18/21 14:44	BRF
Methylene Chloride	ND	1.0		ND	3.5	2	1/18/21 14:44	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.10		ND	0.41	2	1/18/21 14:44	BRF
Naphthalene	ND	0.10	Z-01	ND	0.52	2	1/18/21 14:44	BRF
Propene	ND	4.0		ND	6.9	2	1/18/21 14:44	BRF
Styrene	ND	0.10		ND	0.43	2	1/18/21 14:44	BRF
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	1/18/21 14:44	BRF
Tetrachloroethylene	ND	0.10		ND	0.68	2	1/18/21 14:44	BRF
Tetrahydrofuran	ND	1.0		ND	2.9	2	1/18/21 14:44	BRF
Toluene	0.35	0.10		1.3	0.38	2	1/18/21 14:44	BRF
1,2,4-Trichlorobenzene	ND	0.10	Z-01, V-34	ND	0.74	2	1/18/21 14:44	BRF
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	1/18/21 14:44	BRF
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	1/18/21 14:44	BRF
Trichloroethylene	ND	0.10		ND	0.54	2	1/18/21 14:44	BRF
Trichlorofluoromethane (Freon 11)	ND	0.40		ND	2.2	2	1/18/21 14:44	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40		ND	3.1	2	1/18/21 14:44	BRF
1,2,4-Trimethylbenzene	ND	0.10		ND	0.49	2	1/18/21 14:44	BRF
1,3,5-Trimethylbenzene	ND	0.10		ND	0.49	2	1/18/21 14:44	BRF
Vinyl Acetate	ND	2.0		ND	7.0	2	1/18/21 14:44	BRF
Vinyl Chloride	ND	0.10		ND	0.26	2	1/18/21 14:44	BRF
m&p-Xylene	0.44	0.20		1.9	0.87	2	1/18/21 14:44	BRF
o-Xylene	0.24	0.10		1.0	0.43	2	1/18/21 14:44	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	100	70-130	1/19/21 7:02
4-Bromofluorobenzene (1)	101	70-130	1/18/21 14:44

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ANALYTICAL RESULTS

Project Location: Westford, VT
Date Received: 1/6/2021
Field Sample #: VP-2
Sample ID: 21A0105-02
Sample Matrix: Soil Gas
Sampled: 1/5/2021 11:49

Sample Description/Location:
Sub Description/Location:
Canister ID: 2044
Canister Size: 6 liter
Flow Controller ID: 4408
Sample Type: 2 hr

Work Order: 21A0105
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -7
Receipt Vacuum(in Hg): -7.1
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	Results	RL	Flag/Qual	Results	RL	Dilution	Analyzed	Analyst
Acetone	4.2	4.0		10	9.5	2	1/18/21 15:10	BRF
Benzene	ND	0.10		ND	0.32	2	1/18/21 15:10	BRF
Benzyl chloride	ND	0.10		ND	0.52	2	1/18/21 15:10	BRF
Bromodichloromethane	ND	0.10		ND	0.67	2	1/18/21 15:10	BRF
Bromoform	ND	0.10		ND	1.0	2	1/18/21 15:10	BRF
Bromomethane	ND	0.10		ND	0.39	2	1/18/21 15:10	BRF
1,3-Butadiene	ND	0.10		ND	0.22	2	1/18/21 15:10	BRF
2-Butanone (MEK)	ND	4.0		ND	12	2	1/18/21 15:10	BRF
Carbon Disulfide	ND	1.0		ND	3.1	2	1/18/21 15:10	BRF
Carbon Tetrachloride	ND	0.10		ND	0.63	2	1/18/21 15:10	BRF
Chlorobenzene	ND	0.10		ND	0.46	2	1/18/21 15:10	BRF
Chloroethane	ND	0.10		ND	0.26	2	1/18/21 15:10	BRF
Chloroform	ND	0.10		ND	0.49	2	1/18/21 15:10	BRF
Chloromethane	ND	0.20		ND	0.41	2	1/18/21 15:10	BRF
Cyclohexane	ND	0.10		ND	0.34	2	1/18/21 15:10	BRF
Dibromochloromethane	ND	0.10		ND	0.85	2	1/18/21 15:10	BRF
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	1/18/21 15:10	BRF
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	1/18/21 15:10	BRF
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	1/18/21 15:10	BRF
1,4-Dichlorobenzene	ND	0.10		ND	0.60	2	1/18/21 15:10	BRF
Dichlorodifluoromethane (Freon 12)	ND	0.10		ND	0.49	2	1/18/21 15:10	BRF
1,1-Dichloroethane	ND	0.10		ND	0.40	2	1/18/21 15:10	BRF
1,2-Dichloroethane	ND	0.10		ND	0.40	2	1/18/21 15:10	BRF
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	1/18/21 15:10	BRF
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	1/18/21 15:10	BRF
trans-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	1/18/21 15:10	BRF
1,2-Dichloropropane	ND	0.10		ND	0.46	2	1/18/21 15:10	BRF
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	1/18/21 15:10	BRF
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	1/18/21 15:10	BRF
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10		ND	0.70	2	1/18/21 15:10	BRF
1,4-Dioxane	ND	1.0		ND	3.6	2	1/18/21 15:10	BRF
Ethanol	8.9	4.0		17	7.5	2	1/18/21 15:10	BRF
Ethyl Acetate	ND	1.0		ND	3.6	2	1/18/21 15:10	BRF
Ethylbenzene	ND	0.10		ND	0.43	2	1/18/21 15:10	BRF
4-Ethyltoluene	ND	0.10		ND	0.49	2	1/18/21 15:10	BRF
Heptane	ND	0.10		ND	0.41	2	1/18/21 15:10	BRF
Hexachlorobutadiene	ND	0.10		ND	1.1	2	1/18/21 15:10	BRF

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ANALYTICAL RESULTS

Project Location: Westford, VT
Date Received: 1/6/2021
Field Sample #: VP-2
Sample ID: 21A0105-02
Sample Matrix: Soil Gas
Sampled: 1/5/2021 11:49

Sample Description/Location:
Sub Description/Location:
Canister ID: 2044
Canister Size: 6 liter
Flow Controller ID: 4408
Sample Type: 2 hr

Work Order: 21A0105
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -7
Receipt Vacuum(in Hg): -7.1
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv Results	ppbv RL	Flag/Qual	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
Hexane	ND	4.0		ND	14	2	1/18/21 15:10	BRF
2-Hexanone (MBK)	ND	0.20		ND	0.82	2	1/18/21 15:10	BRF
Isopropanol	ND	4.0		ND	9.8	2	1/18/21 15:10	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.10		ND	0.36	2	1/18/21 15:10	BRF
Methylene Chloride	ND	1.0		ND	3.5	2	1/18/21 15:10	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.10		ND	0.41	2	1/18/21 15:10	BRF
Naphthalene	ND	0.10	Z-01	ND	0.52	2	1/18/21 15:10	BRF
Propene	ND	4.0		ND	6.9	2	1/18/21 15:10	BRF
Styrene	ND	0.10		ND	0.43	2	1/18/21 15:10	BRF
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	1/18/21 15:10	BRF
Tetrachloroethylene	ND	0.10		ND	0.68	2	1/18/21 15:10	BRF
Tetrahydrofuran	ND	1.0		ND	2.9	2	1/18/21 15:10	BRF
Toluene	0.10	0.10		0.38	0.38	2	1/18/21 15:10	BRF
1,2,4-Trichlorobenzene	ND	0.10	V-34, Z-01	ND	0.74	2	1/18/21 15:10	BRF
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	1/18/21 15:10	BRF
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	1/18/21 15:10	BRF
Trichloroethylene	ND	0.10		ND	0.54	2	1/18/21 15:10	BRF
Trichlorofluoromethane (Freon 11)	ND	0.40		ND	2.2	2	1/18/21 15:10	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40		ND	3.1	2	1/18/21 15:10	BRF
1,2,4-Trimethylbenzene	ND	0.10		ND	0.49	2	1/18/21 15:10	BRF
1,3,5-Trimethylbenzene	ND	0.10		ND	0.49	2	1/18/21 15:10	BRF
Vinyl Acetate	ND	2.0		ND	7.0	2	1/18/21 15:10	BRF
Vinyl Chloride	ND	0.10		ND	0.26	2	1/18/21 15:10	BRF
m&p-Xylene	ND	0.20		ND	0.87	2	1/18/21 15:10	BRF
o-Xylene	ND	0.10		ND	0.43	2	1/18/21 15:10	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	102	70-130	1/18/21 15:10

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ANALYTICAL RESULTS

Project Location: Westford, VT
Date Received: 1/6/2021
Field Sample #: SG-3
Sample ID: 21A0105-03
Sample Matrix: Soil Gas
Sampled: 1/5/2021 12:15

Sample Description/Location:
Sub Description/Location:
Canister ID: 1985
Canister Size: 6 liter
Flow Controller ID: 4406
Sample Type: 2 hr

Work Order: 21A0105
Initial Vacuum(in Hg): -29
Final Vacuum(in Hg): -5
Receipt Vacuum(in Hg): -5.4
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
Acetone	ND	4.0		ND	9.5	2	1/18/21 16:02	BRF
Benzene	ND	0.10		ND	0.32	2	1/18/21 16:02	BRF
Benzyl chloride	ND	0.10		ND	0.52	2	1/18/21 16:02	BRF
Bromodichloromethane	ND	0.10		ND	0.67	2	1/18/21 16:02	BRF
Bromoform	ND	0.10		ND	1.0	2	1/18/21 16:02	BRF
Bromomethane	ND	0.10		ND	0.39	2	1/18/21 16:02	BRF
1,3-Butadiene	ND	0.10		ND	0.22	2	1/18/21 16:02	BRF
2-Butanone (MEK)	ND	4.0		ND	12	2	1/18/21 16:02	BRF
Carbon Disulfide	ND	1.0		ND	3.1	2	1/18/21 16:02	BRF
Carbon Tetrachloride	ND	0.10		ND	0.63	2	1/18/21 16:02	BRF
Chlorobenzene	ND	0.10		ND	0.46	2	1/18/21 16:02	BRF
Chloroethane	ND	0.10		ND	0.26	2	1/18/21 16:02	BRF
Chloroform	ND	0.10		ND	0.49	2	1/18/21 16:02	BRF
Chloromethane	ND	0.20		ND	0.41	2	1/18/21 16:02	BRF
Cyclohexane	ND	0.10		ND	0.34	2	1/18/21 16:02	BRF
Dibromochloromethane	ND	0.10		ND	0.85	2	1/18/21 16:02	BRF
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	1/18/21 16:02	BRF
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	1/18/21 16:02	BRF
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	1/18/21 16:02	BRF
1,4-Dichlorobenzene	ND	0.10		ND	0.60	2	1/18/21 16:02	BRF
Dichlorodifluoromethane (Freon 12)	ND	0.10		ND	0.49	2	1/18/21 16:02	BRF
1,1-Dichloroethane	ND	0.10		ND	0.40	2	1/18/21 16:02	BRF
1,2-Dichloroethane	ND	0.10		ND	0.40	2	1/18/21 16:02	BRF
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	1/18/21 16:02	BRF
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	1/18/21 16:02	BRF
trans-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	1/18/21 16:02	BRF
1,2-Dichloropropane	ND	0.10		ND	0.46	2	1/18/21 16:02	BRF
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	1/18/21 16:02	BRF
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	1/18/21 16:02	BRF
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10		ND	0.70	2	1/18/21 16:02	BRF
1,4-Dioxane	ND	1.0		ND	3.6	2	1/18/21 16:02	BRF
Ethanol	ND	4.0		ND	7.5	2	1/18/21 16:02	BRF
Ethyl Acetate	ND	1.0		ND	3.6	2	1/18/21 16:02	BRF
Ethylbenzene	ND	0.10		ND	0.43	2	1/18/21 16:02	BRF
4-Ethyltoluene	ND	0.10		ND	0.49	2	1/18/21 16:02	BRF
Heptane	ND	0.10		ND	0.41	2	1/18/21 16:02	BRF
Hexachlorobutadiene	ND	0.10		ND	1.1	2	1/18/21 16:02	BRF

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ANALYTICAL RESULTS

Project Location: Westford, VT
Date Received: 1/6/2021
Field Sample #: SG-3
Sample ID: 21A0105-03
Sample Matrix: Soil Gas
Sampled: 1/5/2021 12:15

Sample Description/Location:
Sub Description/Location:
Canister ID: 1985
Canister Size: 6 liter
Flow Controller ID: 4406
Sample Type: 2 hr

Work Order: 21A0105
Initial Vacuum(in Hg): -29
Final Vacuum(in Hg): -5
Receipt Vacuum(in Hg): -5.4
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
Hexane	ND	4.0		ND	14	2	1/18/21 16:02	BRF
2-Hexanone (MBK)	ND	0.20		ND	0.82	2	1/18/21 16:02	BRF
Isopropanol	ND	4.0		ND	9.8	2	1/18/21 16:02	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.10		ND	0.36	2	1/18/21 16:02	BRF
Methylene Chloride	ND	1.0		ND	3.5	2	1/18/21 16:02	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.10		ND	0.41	2	1/18/21 16:02	BRF
Naphthalene	ND	0.10	Z-01	ND	0.52	2	1/18/21 16:02	BRF
Propene	ND	4.0		ND	6.9	2	1/18/21 16:02	BRF
Styrene	ND	0.10		ND	0.43	2	1/18/21 16:02	BRF
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	1/18/21 16:02	BRF
Tetrachloroethylene	0.13	0.10		0.85	0.68	2	1/18/21 16:02	BRF
Tetrahydrofuran	1.1	1.0		3.1	2.9	2	1/18/21 16:02	BRF
Toluene	ND	0.10		ND	0.38	2	1/18/21 16:02	BRF
1,2,4-Trichlorobenzene	ND	0.10	V-34, Z-01	ND	0.74	2	1/18/21 16:02	BRF
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	1/18/21 16:02	BRF
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	1/18/21 16:02	BRF
Trichloroethylene	ND	0.10		ND	0.54	2	1/18/21 16:02	BRF
Trichlorofluoromethane (Freon 11)	ND	0.40		ND	2.2	2	1/18/21 16:02	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40		ND	3.1	2	1/18/21 16:02	BRF
1,2,4-Trimethylbenzene	ND	0.10		ND	0.49	2	1/18/21 16:02	BRF
1,3,5-Trimethylbenzene	ND	0.10		ND	0.49	2	1/18/21 16:02	BRF
Vinyl Acetate	ND	2.0		ND	7.0	2	1/18/21 16:02	BRF
Vinyl Chloride	ND	0.10		ND	0.26	2	1/18/21 16:02	BRF
m&p-Xylene	ND	0.20		ND	0.87	2	1/18/21 16:02	BRF
o-Xylene	0.11	0.10		0.48	0.43	2	1/18/21 16:02	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	102	70-130	1/18/21 16:02

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ANALYTICAL RESULTS

Project Location: Westford, VT
Date Received: 1/6/2021
Field Sample #: Ambient
Sample ID: 21A0105-04
Sample Matrix: Indoor air
Sampled: 1/5/2021 12:23

Sample Description/Location:
Sub Description/Location:
Canister ID: 1672
Canister Size: 6 liter
Flow Controller ID: 4407
Sample Type: 2 hr

Work Order: 21A0105
Initial Vacuum(in Hg): -28
Final Vacuum(in Hg): -7
Receipt Vacuum(in Hg): -7.9
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
Acetone	3.2	1.4		7.6	3.3	0.698	1/18/21 16:33	BRF
Benzene	0.15	0.035		0.47	0.11	0.698	1/18/21 16:33	BRF
Benzyl chloride	ND	0.035		ND	0.18	0.698	1/18/21 16:33	BRF
Bromodichloromethane	ND	0.035		ND	0.23	0.698	1/18/21 16:33	BRF
Bromoform	ND	0.035		ND	0.36	0.698	1/18/21 16:33	BRF
Bromomethane	ND	0.035		ND	0.14	0.698	1/18/21 16:33	BRF
1,3-Butadiene	ND	0.035		ND	0.077	0.698	1/18/21 16:33	BRF
2-Butanone (MEK)	ND	1.4		ND	4.1	0.698	1/18/21 16:33	BRF
Carbon Disulfide	ND	0.35		ND	1.1	0.698	1/18/21 16:33	BRF
Carbon Tetrachloride	0.080	0.035		0.50	0.22	0.698	1/18/21 16:33	BRF
Chlorobenzene	ND	0.035		ND	0.16	0.698	1/18/21 16:33	BRF
Chloroethane	ND	0.035		ND	0.092	0.698	1/18/21 16:33	BRF
Chloroform	ND	0.035		ND	0.17	0.698	1/18/21 16:33	BRF
Chloromethane	ND	0.070		ND	0.14	0.698	1/18/21 16:33	BRF
Cyclohexane	ND	0.035		ND	0.12	0.698	1/18/21 16:33	BRF
Dibromochloromethane	ND	0.035		ND	0.30	0.698	1/18/21 16:33	BRF
1,2-Dibromoethane (EDB)	ND	0.035		ND	0.27	0.698	1/18/21 16:33	BRF
1,2-Dichlorobenzene	ND	0.035		ND	0.21	0.698	1/18/21 16:33	BRF
1,3-Dichlorobenzene	ND	0.035		ND	0.21	0.698	1/18/21 16:33	BRF
1,4-Dichlorobenzene	ND	0.035		ND	0.21	0.698	1/18/21 16:33	BRF
Dichlorodifluoromethane (Freon 12)	ND	0.035		ND	0.17	0.698	1/18/21 16:33	BRF
1,1-Dichloroethane	ND	0.035		ND	0.14	0.698	1/18/21 16:33	BRF
1,2-Dichloroethane	ND	0.035		ND	0.14	0.698	1/18/21 16:33	BRF
1,1-Dichloroethylene	ND	0.035		ND	0.14	0.698	1/18/21 16:33	BRF
cis-1,2-Dichloroethylene	ND	0.035		ND	0.14	0.698	1/18/21 16:33	BRF
trans-1,2-Dichloroethylene	ND	0.035		ND	0.14	0.698	1/18/21 16:33	BRF
1,2-Dichloropropane	ND	0.035		ND	0.16	0.698	1/18/21 16:33	BRF
cis-1,3-Dichloropropene	ND	0.035		ND	0.16	0.698	1/18/21 16:33	BRF
trans-1,3-Dichloropropene	ND	0.035		ND	0.16	0.698	1/18/21 16:33	BRF
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035		ND	0.24	0.698	1/18/21 16:33	BRF
1,4-Dioxane	ND	0.35		ND	1.3	0.698	1/18/21 16:33	BRF
Ethanol	2.4	1.4		4.5	2.6	0.698	1/18/21 16:33	BRF
Ethyl Acetate	ND	0.35		ND	1.3	0.698	1/18/21 16:33	BRF
Ethylbenzene	ND	0.035		ND	0.15	0.698	1/18/21 16:33	BRF
4-Ethyltoluene	ND	0.035		ND	0.17	0.698	1/18/21 16:33	BRF
Heptane	ND	0.035		ND	0.14	0.698	1/18/21 16:33	BRF
Hexachlorobutadiene	ND	0.035		ND	0.37	0.698	1/18/21 16:33	BRF

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ANALYTICAL RESULTS

Project Location: Westford, VT
Date Received: 1/6/2021
Field Sample #: Ambient
Sample ID: 21A0105-04
Sample Matrix: Indoor air
Sampled: 1/5/2021 12:23

Sample Description/Location:
Sub Description/Location:
Canister ID: 1672
Canister Size: 6 liter
Flow Controller ID: 4407
Sample Type: 2 hr

Work Order: 21A0105
Initial Vacuum(in Hg): -28
Final Vacuum(in Hg): -7
Receipt Vacuum(in Hg): -7.9
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv Results	ppbv RL	Flag/Qual	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
Hexane	ND	1.4		ND	4.9	0.698	1/18/21 16:33	BRF
2-Hexanone (MBK)	ND	0.070		ND	0.29	0.698	1/18/21 16:33	BRF
Isopropanol	ND	1.4		ND	3.4	0.698	1/18/21 16:33	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035		ND	0.13	0.698	1/18/21 16:33	BRF
Methylene Chloride	0.51	0.35		1.8	1.2	0.698	1/18/21 16:33	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035		ND	0.14	0.698	1/18/21 16:33	BRF
Naphthalene	ND	0.035	Z-01	ND	0.18	0.698	1/18/21 16:33	BRF
Propene	ND	1.4		ND	2.4	0.698	1/18/21 16:33	BRF
Styrene	ND	0.035		ND	0.15	0.698	1/18/21 16:33	BRF
1,1,2,2-Tetrachloroethane	ND	0.035		ND	0.24	0.698	1/18/21 16:33	BRF
Tetrachloroethylene	ND	0.035		ND	0.24	0.698	1/18/21 16:33	BRF
Tetrahydrofuran	ND	0.35		ND	1.0	0.698	1/18/21 16:33	BRF
Toluene	0.12	0.035		0.46	0.13	0.698	1/18/21 16:33	BRF
1,2,4-Trichlorobenzene	ND	0.035	V-34, Z-01	ND	0.26	0.698	1/18/21 16:33	BRF
1,1,1-Trichloroethane	ND	0.035		ND	0.19	0.698	1/18/21 16:33	BRF
1,1,2-Trichloroethane	ND	0.035		ND	0.19	0.698	1/18/21 16:33	BRF
Trichloroethylene	ND	0.035		ND	0.19	0.698	1/18/21 16:33	BRF
Trichlorofluoromethane (Freon 11)	0.22	0.14		1.2	0.78	0.698	1/18/21 16:33	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14		ND	1.1	0.698	1/18/21 16:33	BRF
1,2,4-Trimethylbenzene	ND	0.035		ND	0.17	0.698	1/18/21 16:33	BRF
1,3,5-Trimethylbenzene	ND	0.035		ND	0.17	0.698	1/18/21 16:33	BRF
Vinyl Acetate	ND	0.70		ND	2.5	0.698	1/18/21 16:33	BRF
Vinyl Chloride	ND	0.035		ND	0.089	0.698	1/18/21 16:33	BRF
m&p-Xylene	ND	0.070		ND	0.30	0.698	1/18/21 16:33	BRF
o-Xylene	ND	0.035		ND	0.15	0.698	1/18/21 16:33	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	104	70-130	1/18/21 16:33

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ANALYTICAL RESULTS

Project Location: Westford, VT
Date Received: 1/6/2021
Field Sample #: SG-2
Sample ID: 21A0105-05
Sample Matrix: Soil Gas
Sampled: 1/5/2021 13:17

Sample Description/Location:
Sub Description/Location:
Canister ID: 1161
Canister Size: 6 liter
Flow Controller ID: 4429
Sample Type: 2 hr

Work Order: 21A0105
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -5
Receipt Vacuum(in Hg): -3.9
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
Acetone	ND	4.0		ND	9.5	2	1/18/21 16:59	BRF
Benzene	ND	0.10		ND	0.32	2	1/18/21 16:59	BRF
Benzyl chloride	ND	0.10		ND	0.52	2	1/18/21 16:59	BRF
Bromodichloromethane	ND	0.10		ND	0.67	2	1/18/21 16:59	BRF
Bromoform	ND	0.10		ND	1.0	2	1/18/21 16:59	BRF
Bromomethane	ND	0.10		ND	0.39	2	1/18/21 16:59	BRF
1,3-Butadiene	ND	0.10		ND	0.22	2	1/18/21 16:59	BRF
2-Butanone (MEK)	ND	4.0		ND	12	2	1/18/21 16:59	BRF
Carbon Disulfide	ND	1.0		ND	3.1	2	1/18/21 16:59	BRF
Carbon Tetrachloride	ND	0.10		ND	0.63	2	1/18/21 16:59	BRF
Chlorobenzene	ND	0.10		ND	0.46	2	1/18/21 16:59	BRF
Chloroethane	ND	0.10		ND	0.26	2	1/18/21 16:59	BRF
Chloroform	ND	0.10		ND	0.49	2	1/18/21 16:59	BRF
Chloromethane	ND	0.20		ND	0.41	2	1/18/21 16:59	BRF
Cyclohexane	ND	0.10		ND	0.34	2	1/18/21 16:59	BRF
Dibromochloromethane	ND	0.10		ND	0.85	2	1/18/21 16:59	BRF
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	1/18/21 16:59	BRF
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	1/18/21 16:59	BRF
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	1/18/21 16:59	BRF
1,4-Dichlorobenzene	ND	0.10		ND	0.60	2	1/18/21 16:59	BRF
Dichlorodifluoromethane (Freon 12)	ND	0.10		ND	0.49	2	1/18/21 16:59	BRF
1,1-Dichloroethane	ND	0.10		ND	0.40	2	1/18/21 16:59	BRF
1,2-Dichloroethane	ND	0.10		ND	0.40	2	1/18/21 16:59	BRF
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	1/18/21 16:59	BRF
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	1/18/21 16:59	BRF
trans-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	1/18/21 16:59	BRF
1,2-Dichloropropane	ND	0.10		ND	0.46	2	1/18/21 16:59	BRF
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	1/18/21 16:59	BRF
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	1/18/21 16:59	BRF
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10		ND	0.70	2	1/18/21 16:59	BRF
1,4-Dioxane	ND	1.0		ND	3.6	2	1/18/21 16:59	BRF
Ethanol	ND	4.0		ND	7.5	2	1/18/21 16:59	BRF
Ethyl Acetate	ND	1.0		ND	3.6	2	1/18/21 16:59	BRF
Ethylbenzene	ND	0.10		ND	0.43	2	1/18/21 16:59	BRF
4-Ethyltoluene	ND	0.10		ND	0.49	2	1/18/21 16:59	BRF
Heptane	ND	0.10		ND	0.41	2	1/18/21 16:59	BRF
Hexachlorobutadiene	ND	0.10		ND	1.1	2	1/18/21 16:59	BRF

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ANALYTICAL RESULTS

Project Location: Westford, VT
Date Received: 1/6/2021
Field Sample #: SG-2
Sample ID: 21A0105-05
Sample Matrix: Soil Gas
Sampled: 1/5/2021 13:17

Sample Description/Location:
Sub Description/Location:
Canister ID: 1161
Canister Size: 6 liter
Flow Controller ID: 4429
Sample Type: 2 hr

Work Order: 21A0105
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -5
Receipt Vacuum(in Hg): -3.9
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
Hexane	ND	4.0		ND	14	2	1/18/21 16:59	BRF
2-Hexanone (MBK)	ND	0.20		ND	0.82	2	1/18/21 16:59	BRF
Isopropanol	ND	4.0		ND	9.8	2	1/18/21 16:59	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.10		ND	0.36	2	1/18/21 16:59	BRF
Methylene Chloride	ND	1.0		ND	3.5	2	1/18/21 16:59	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.10		ND	0.41	2	1/18/21 16:59	BRF
Naphthalene	ND	0.10	Z-01	ND	0.52	2	1/18/21 16:59	BRF
Propene	ND	4.0		ND	6.9	2	1/18/21 16:59	BRF
Styrene	ND	0.10		ND	0.43	2	1/18/21 16:59	BRF
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	1/18/21 16:59	BRF
Tetrachloroethylene	1.3	0.10		8.9	0.68	2	1/18/21 16:59	BRF
Tetrahydrofuran	ND	1.0		ND	2.9	2	1/18/21 16:59	BRF
Toluene	ND	0.10		ND	0.38	2	1/18/21 16:59	BRF
1,2,4-Trichlorobenzene	ND	0.10	V-34, Z-01	ND	0.74	2	1/18/21 16:59	BRF
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	1/18/21 16:59	BRF
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	1/18/21 16:59	BRF
Trichloroethylene	ND	0.10		ND	0.54	2	1/18/21 16:59	BRF
Trichlorofluoromethane (Freon 11)	1.3	0.40		7.4	2.2	2	1/18/21 16:59	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40		ND	3.1	2	1/18/21 16:59	BRF
1,2,4-Trimethylbenzene	ND	0.10		ND	0.49	2	1/18/21 16:59	BRF
1,3,5-Trimethylbenzene	ND	0.10		ND	0.49	2	1/18/21 16:59	BRF
Vinyl Acetate	ND	2.0		ND	7.0	2	1/18/21 16:59	BRF
Vinyl Chloride	ND	0.10		ND	0.26	2	1/18/21 16:59	BRF
m&p-Xylene	ND	0.20		ND	0.87	2	1/18/21 16:59	BRF
o-Xylene	ND	0.10		ND	0.43	2	1/18/21 16:59	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	103	70-130	1/18/21 16:59

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ANALYTICAL RESULTS

Project Location: Westford, VT
Date Received: 1/6/2021
Field Sample #: SG-4
Sample ID: 21A0105-06
Sample Matrix: Soil Gas
Sampled: 1/5/2021 13:32

Sample Description/Location:
Sub Description/Location:
Canister ID: 1853
Canister Size: 6 liter
Flow Controller ID: 4446
Sample Type: 2 hr

Work Order: 21A0105
Initial Vacuum(in Hg): -29
Final Vacuum(in Hg): -5
Receipt Vacuum(in Hg): -5
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	Results	RL	Flag/Qual	Results	RL	Dilution	Analyzed	Analyst
Acetone	ND	4.0		ND	9.5	2	1/18/21 17:25	BRF
Benzene	ND	0.10		ND	0.32	2	1/18/21 17:25	BRF
Benzyl chloride	ND	0.10		ND	0.52	2	1/18/21 17:25	BRF
Bromodichloromethane	ND	0.10		ND	0.67	2	1/18/21 17:25	BRF
Bromoform	ND	0.10		ND	1.0	2	1/18/21 17:25	BRF
Bromomethane	ND	0.10		ND	0.39	2	1/18/21 17:25	BRF
1,3-Butadiene	ND	0.10		ND	0.22	2	1/18/21 17:25	BRF
2-Butanone (MEK)	ND	4.0		ND	12	2	1/18/21 17:25	BRF
Carbon Disulfide	ND	1.0		ND	3.1	2	1/18/21 17:25	BRF
Carbon Tetrachloride	ND	0.10		ND	0.63	2	1/18/21 17:25	BRF
Chlorobenzene	ND	0.10		ND	0.46	2	1/18/21 17:25	BRF
Chloroethane	ND	0.10		ND	0.26	2	1/18/21 17:25	BRF
Chloroform	ND	0.10		ND	0.49	2	1/18/21 17:25	BRF
Chloromethane	ND	0.20		ND	0.41	2	1/18/21 17:25	BRF
Cyclohexane	ND	0.10		ND	0.34	2	1/18/21 17:25	BRF
Dibromochloromethane	ND	0.10		ND	0.85	2	1/18/21 17:25	BRF
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	1/18/21 17:25	BRF
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	1/18/21 17:25	BRF
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	1/18/21 17:25	BRF
1,4-Dichlorobenzene	ND	0.10		ND	0.60	2	1/18/21 17:25	BRF
Dichlorodifluoromethane (Freon 12)	ND	0.10		ND	0.49	2	1/18/21 17:25	BRF
1,1-Dichloroethane	ND	0.10		ND	0.40	2	1/18/21 17:25	BRF
1,2-Dichloroethane	ND	0.10		ND	0.40	2	1/18/21 17:25	BRF
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	1/18/21 17:25	BRF
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	1/18/21 17:25	BRF
trans-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	1/18/21 17:25	BRF
1,2-Dichloropropane	ND	0.10		ND	0.46	2	1/18/21 17:25	BRF
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	1/18/21 17:25	BRF
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	1/18/21 17:25	BRF
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10		ND	0.70	2	1/18/21 17:25	BRF
1,4-Dioxane	ND	1.0		ND	3.6	2	1/18/21 17:25	BRF
Ethanol	ND	4.0		ND	7.5	2	1/18/21 17:25	BRF
Ethyl Acetate	ND	1.0		ND	3.6	2	1/18/21 17:25	BRF
Ethylbenzene	ND	0.10		ND	0.43	2	1/18/21 17:25	BRF
4-Ethyltoluene	ND	0.10		ND	0.49	2	1/18/21 17:25	BRF
Heptane	ND	0.10		ND	0.41	2	1/18/21 17:25	BRF
Hexachlorobutadiene	ND	0.10		ND	1.1	2	1/18/21 17:25	BRF

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ANALYTICAL RESULTS

Project Location: Westford, VT
Date Received: 1/6/2021
Field Sample #: SG-4
Sample ID: 21A0105-06
Sample Matrix: Soil Gas
Sampled: 1/5/2021 13:32

Sample Description/Location:
Sub Description/Location:
Canister ID: 1853
Canister Size: 6 liter
Flow Controller ID: 4446
Sample Type: 2 hr

Work Order: 21A0105
Initial Vacuum(in Hg): -29
Final Vacuum(in Hg): -5
Receipt Vacuum(in Hg): -5
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
Hexane	ND	4.0		ND	14	2	1/18/21 17:25	BRF
2-Hexanone (MBK)	ND	0.20		ND	0.82	2	1/18/21 17:25	BRF
Isopropanol	ND	4.0		ND	9.8	2	1/18/21 17:25	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.10		ND	0.36	2	1/18/21 17:25	BRF
Methylene Chloride	1.7	1.0		6.0	3.5	2	1/18/21 17:25	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.10		ND	0.41	2	1/18/21 17:25	BRF
Naphthalene	ND	0.10	Z-01	ND	0.52	2	1/18/21 17:25	BRF
Propene	ND	4.0		ND	6.9	2	1/18/21 17:25	BRF
Styrene	ND	0.10		ND	0.43	2	1/18/21 17:25	BRF
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	1/18/21 17:25	BRF
Tetrachloroethylene	ND	0.10		ND	0.68	2	1/18/21 17:25	BRF
Tetrahydrofuran	ND	1.0		ND	2.9	2	1/18/21 17:25	BRF
Toluene	ND	0.10		ND	0.38	2	1/18/21 17:25	BRF
1,2,4-Trichlorobenzene	ND	0.10	V-34, Z-01	ND	0.74	2	1/18/21 17:25	BRF
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	1/18/21 17:25	BRF
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	1/18/21 17:25	BRF
Trichloroethylene	ND	0.10		ND	0.54	2	1/18/21 17:25	BRF
Trichlorofluoromethane (Freon 11)	ND	0.40		ND	2.2	2	1/18/21 17:25	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40		ND	3.1	2	1/18/21 17:25	BRF
1,2,4-Trimethylbenzene	ND	0.10		ND	0.49	2	1/18/21 17:25	BRF
1,3,5-Trimethylbenzene	ND	0.10		ND	0.49	2	1/18/21 17:25	BRF
Vinyl Acetate	ND	2.0		ND	7.0	2	1/18/21 17:25	BRF
Vinyl Chloride	ND	0.10		ND	0.26	2	1/18/21 17:25	BRF
m&p-Xylene	ND	0.20		ND	0.87	2	1/18/21 17:25	BRF
o-Xylene	ND	0.10		ND	0.43	2	1/18/21 17:25	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	102	70-130	1/18/21 17:25

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Sample Extraction Data

Prep Method: TO-15 Prep **Analytical Method: EP**

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
21A0105-01 [VP-1]	B274844	1.5	1	N/A	1000	200	150	01/18/21
21A0105-01RE1 [VP-1]	B274844	1.5	1	N/A	1000	200	75	01/18/21
21A0105-02 [VP-2]	B274844	1.5	1	N/A	1000	200	150	01/18/21
21A0105-03 [SG-3]	B274844	1.5	1	N/A	1000	200	150	01/18/21
21A0105-04 [Ambient]	B274844	1.5	1	N/A	1000	200	430	01/18/21
21A0105-05 [SG-2]	B274844	1.5	1	N/A	1000	200	150	01/18/21
21A0105-06 [SG-4]	B274844	1.5	1	N/A	1000	200	150	01/18/21

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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B274844 - TO-15 Prep											
Blank (B274844-BLK1)					Prepared & Analyzed: 01/18/21						
Acetone	ND	0.80									
Benzene	ND	0.020									
Benzyl chloride	ND	0.020									
Bromodichloromethane	ND	0.020									
Bromoform	ND	0.020									
Bromomethane	ND	0.020									
1,3-Butadiene	ND	0.020									
2-Butanone (MEK)	ND	0.80									
Carbon Disulfide	ND	0.20									
Carbon Tetrachloride	ND	0.020									
Chlorobenzene	ND	0.020									
Chloroethane	ND	0.020									
Chloroform	ND	0.020									
Chloromethane	ND	0.040									
Cyclohexane	ND	0.020									
Dibromochloromethane	ND	0.020									
1,2-Dibromoethane (EDB)	ND	0.020									
1,2-Dichlorobenzene	ND	0.020									
1,3-Dichlorobenzene	ND	0.020									
1,4-Dichlorobenzene	ND	0.020									
Dichlorodifluoromethane (Freon 12)	ND	0.020									
1,1-Dichloroethane	ND	0.020									
1,2-Dichloroethane	ND	0.020									
1,1-Dichloroethylene	ND	0.020									
cis-1,2-Dichloroethylene	ND	0.020									
trans-1,2-Dichloroethylene	ND	0.020									
1,2-Dichloropropane	ND	0.020									
cis-1,3-Dichloropropene	ND	0.020									
trans-1,3-Dichloropropene	ND	0.020									
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.020									
1,4-Dioxane	ND	0.20									
Ethanol	ND	0.80									
Ethyl Acetate	ND	0.20									
Ethylbenzene	ND	0.020									
4-Ethyltoluene	ND	0.020									
Heptane	ND	0.020									
Hexachlorobutadiene	ND	0.020									
Hexane	ND	0.80									
2-Hexanone (MBK)	ND	0.020									
Isopropanol	ND	0.80									
Methyl tert-Butyl Ether (MTBE)	ND	0.020									
Methylene Chloride	ND	0.20									
4-Methyl-2-pentanone (MIBK)	ND	0.020									
Naphthalene	ND	0.020									Z-01
Propene	ND	0.80									
Styrene	ND	0.020									

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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B274844 - TO-15 Prep											
Blank (B274844-BLK1)					Prepared & Analyzed: 01/18/21						
1,1,2,2-Tetrachloroethane	ND	0.020									
Tetrachloroethylene	ND	0.020									
Tetrahydrofuran	ND	0.20									
Toluene	ND	0.020									
1,2,4-Trichlorobenzene	ND	0.020									V-34, Z-01
1,1,1-Trichloroethane	ND	0.020									
1,1,2-Trichloroethane	ND	0.020									
Trichloroethylene	ND	0.020									
Trichlorofluoromethane (Freon 11)	ND	0.080									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.080									
1,2,4-Trimethylbenzene	ND	0.020									
1,3,5-Trimethylbenzene	ND	0.020									
Vinyl Acetate	ND	0.40									
Vinyl Chloride	ND	0.020									
m&p-Xylene	ND	0.040									
o-Xylene	ND	0.020									
Surrogate: 4-Bromofluorobenzene (1)	*8.13*				*8.00*		*102*	*70-130*			
LCS (B274844-BS1)					Prepared & Analyzed: 01/18/21						
Acetone	4.73				5.00		94.7	70-130			
Benzene	4.07				5.00		81.4	70-130			
Benzyl chloride	4.18				5.00		83.5	70-130			
Bromodichloromethane	4.59				5.00		91.8	70-130			
Bromoform	4.99				5.00		99.9	70-130			
Bromomethane	4.63				5.00		92.6	70-130			
1,3-Butadiene	4.25				5.00		85.0	70-130			
2-Butanone (MEK)	4.29				5.00		85.8	70-130			
Carbon Disulfide	3.75				5.00		75.1	70-130			
Carbon Tetrachloride	4.59				5.00		91.8	70-130			
Chlorobenzene	4.30				5.00		86.1	70-130			
Chloroethane	4.61				5.00		92.2	70-130			
Chloroform	4.55				5.00		90.9	70-130			
Chloromethane	4.53				5.00		90.6	70-130			
Cyclohexane	4.22				5.00		84.3	70-130			
Dibromochloromethane	4.62				5.00		92.4	70-130			
1,2-Dibromoethane (EDB)	4.53				5.00		90.6	70-130			
1,2-Dichlorobenzene	4.63				5.00		92.6	70-130			
1,3-Dichlorobenzene	4.74				5.00		94.7	70-130			
1,4-Dichlorobenzene	4.66				5.00		93.3	70-130			
Dichlorodifluoromethane (Freon 12)	5.10				5.00		102	70-130			
1,1-Dichloroethane	4.37				5.00		87.4	70-130			
1,2-Dichloroethane	4.86				5.00		97.1	70-130			
1,1-Dichloroethylene	4.05				5.00		81.0	70-130			
cis-1,2-Dichloroethylene	4.32				5.00		86.4	70-130			
trans-1,2-Dichloroethylene	4.43				5.00		88.6	70-130			
1,2-Dichloropropane	3.92				5.00		78.5	70-130			

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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC		%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B274844 - TO-15 Prep												
LCS (B274844-BS1)					Prepared & Analyzed: 01/18/21							
cis-1,3-Dichloropropene	4.08				5.00		81.5		70-130			
trans-1,3-Dichloropropene	4.26				5.00		85.3		70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	4.53				5.00		90.6		70-130			
1,4-Dioxane	4.37				5.00		87.5		70-130			
Ethanol	4.18				5.00		83.5		70-130			
Ethyl Acetate	3.72				5.00		74.5		70-130			
Ethylbenzene	4.14				5.00		82.7		70-130			
4-Ethyltoluene	4.21				5.00		84.2		70-130			
Heptane	3.95				5.00		79.0		70-130			
Hexachlorobutadiene	4.30				5.00		85.9		70-130			
Hexane	4.55				5.00		91.0		70-130			
2-Hexanone (MBK)	4.83				5.00		96.5		70-130			
Isopropanol	4.10				5.00		81.9		70-130			
Methyl tert-Butyl Ether (MTBE)	4.19				5.00		83.8		70-130			
Methylene Chloride	3.99				5.00		79.8		70-130			
4-Methyl-2-pentanone (MIBK)	4.37				5.00		87.4		70-130			
Naphthalene	3.00				5.00		**60.0**	*	70-130			Z-01
Propene	5.50				5.00		110		70-130			
Styrene	4.13				5.00		82.5		70-130			
1,1,2,2-Tetrachloroethane	4.34				5.00		86.8		70-130			
Tetrachloroethylene	4.62				5.00		92.3		70-130			
Tetrahydrofuran	4.26				5.00		85.2		70-130			
Toluene	4.06				5.00		81.2		70-130			
1,2,4-Trichlorobenzene	3.42				5.00		**68.3**	*	70-130			Z-01, V-34
1,1,1-Trichloroethane	4.26				5.00		85.2		70-130			
1,1,2-Trichloroethane	4.29				5.00		85.7		70-130			
Trichloroethylene	4.48				5.00		89.6		70-130			
Trichlorofluoromethane (Freon 11)	4.78				5.00		95.6		70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.02				5.00		80.4		70-130			
1,2,4-Trimethylbenzene	4.28				5.00		85.6		70-130			
1,3,5-Trimethylbenzene	4.26				5.00		85.1		70-130			
Vinyl Acetate	3.97				5.00		79.4		70-130			
Vinyl Chloride	4.64				5.00		92.7		70-130			
m&p-Xylene	8.85				10.0		88.5		70-130			
o-Xylene	4.24				5.00		84.7		70-130			
Surrogate: 4-Bromofluorobenzene (1)	*8.62*				*8.00*		*108*		*70-130*			

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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B274844 - TO-15 Prep											
Duplicate (B274844-DUP1)			**Source: 21A0105-02**		Prepared & Analyzed: 01/18/21						
Acetone	4.2	4.0	9.9	9.5		4.2			1.67	25	
Benzene	0.056	0.10	0.18	0.32		0.058			3.51	25	
Benzyl chloride	ND	0.10	ND	0.52		ND				25	
Bromodichloromethane	ND	0.10	ND	0.67		ND				25	
Bromoform	ND	0.10	ND	1.0		ND				25	
Bromomethane	ND	0.10	ND	0.39		ND				25	
1,3-Butadiene	ND	0.10	ND	0.22		ND				25	
2-Butanone (MEK)	ND	4.0	ND	12		ND				25	
Carbon Disulfide	ND	1.0	ND	3.1		ND				25	
Carbon Tetrachloride	ND	0.10	ND	0.63		ND				25	
Chlorobenzene	ND	0.10	ND	0.46		ND				25	
Chloroethane	ND	0.10	ND	0.26		ND				25	
Chloroform	ND	0.10	ND	0.49		ND				25	
Chloromethane	ND	0.20	ND	0.41		ND				25	
Cyclohexane	ND	0.10	ND	0.34		ND				25	
Dibromochloromethane	ND	0.10	ND	0.85		ND				25	
1,2-Dibromoethane (EDB)	ND	0.10	ND	0.77		ND				25	
1,2-Dichlorobenzene	ND	0.10	ND	0.60		ND				25	
1,3-Dichlorobenzene	ND	0.10	ND	0.60		ND				25	
1,4-Dichlorobenzene	ND	0.10	ND	0.60		ND				25	
Dichlorodifluoromethane (Freon 12)	ND	0.10	ND	0.49		ND				25	
1,1-Dichloroethane	ND	0.10	ND	0.40		ND				25	
1,2-Dichloroethane	ND	0.10	ND	0.40		ND				25	
1,1-Dichloroethylene	ND	0.10	ND	0.40		ND				25	
cis-1,2-Dichloroethylene	ND	0.10	ND	0.40		ND				25	
trans-1,2-Dichloroethylene	ND	0.10	ND	0.40		ND				25	
1,2-Dichloropropane	ND	0.10	ND	0.46		ND				25	
cis-1,3-Dichloropropene	ND	0.10	ND	0.45		ND				25	
trans-1,3-Dichloropropene	ND	0.10	ND	0.45		ND				25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10	ND	0.70		ND				25	
1,4-Dioxane	ND	1.0	ND	3.6		ND				25	
Ethanol	8.7	4.0	16	7.5		8.9			2.03	25	
Ethyl Acetate	ND	1.0	ND	3.6		ND				25	
Ethylbenzene	0.036	0.10	0.16	0.43		0.036			0.00	25	
4-Ethyltoluene	ND	0.10	ND	0.49		ND				25	
Heptane	ND	0.10	ND	0.41		ND				25	
Hexachlorobutadiene	ND	0.10	ND	1.1		ND				25	
Hexane	ND	4.0	ND	14		ND				25	
2-Hexanone (MBK)	ND	0.10	ND	0.41		ND				25	
Isopropanol	ND	4.0	ND	9.8		ND				25	
Methyl tert-Butyl Ether (MTBE)	ND	0.10	ND	0.36		ND				25	
Methylene Chloride	0.45	1.0	1.6	3.5		0.48			7.73	25	
4-Methyl-2-pentanone (MIBK)	ND	0.10	ND	0.41		ND				25	
Naphthalene	ND	0.10	ND	0.52		ND				25	Z-01
Propene	ND	4.0	ND	6.9		ND				25	
Styrene	ND	0.10	ND	0.43		ND				25	

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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B274844 - TO-15 Prep											
Duplicate (B274844-DUP1)			**Source: 21A0105-02**		Prepared & Analyzed: 01/18/21						
1,1,2,2-Tetrachloroethane	ND	0.10	ND	0.69		ND				25	
Tetrachloroethylene	0.040	0.10	0.27	0.68		0.048			18.2	25	
Tetrahydrofuran	ND	1.0	ND	2.9		ND				25	
Toluene	0.10	0.10	0.38	0.38		0.10			0.00	25	
1,2,4-Trichlorobenzene	ND	0.10	ND	0.74		ND				25	V-34, Z-01
1,1,1-Trichloroethane	ND	0.10	ND	0.55		ND				25	
1,1,2-Trichloroethane	ND	0.10	ND	0.55		ND				25	
Trichloroethylene	ND	0.10	ND	0.54		ND				25	
Trichlorofluoromethane (Freon 11)	0.26	0.40	1.5	2.2		0.26			0.766	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40	ND	3.1		ND				25	
1,2,4-Trimethylbenzene	ND	0.10	ND	0.49		ND				25	
1,3,5-Trimethylbenzene	ND	0.10	ND	0.49		ND				25	
Vinyl Acetate	ND	2.0	ND	7.0		ND				25	
Vinyl Chloride	ND	0.10	ND	0.26		ND				25	
m&p-Xylene	0.16	0.20	0.69	0.87		0.17			3.68	25	
o-Xylene	0.072	0.10	0.31	0.43		0.074			2.74	25	
Surrogate: 4-Bromofluorobenzene (1)	*8.14*				*8.00*		*102*	*70-130*			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.
Z-01	Compound fails the method requirement of 70-130% recovery for the LCS. Is classified by the lab as a difficult compound and passes the in house limits of 50-150%.

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INTERNAL STANDARD AREA AND RT SUMMARY

EPA TO-15

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (S052381-ICV1)			Lab File ID: J2025821.D			Analyzed: 09/14/20 23:22			
Bromochloromethane (1)	159501	2.873	155833	2.873	102	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (1)	756714	3.475	745760	3.475	101	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	686740	5.06	671608	5.057	102	60 - 140	0.0030	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA TO-15

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S056311-CCV1)			Lab File ID: J2101804.D			Analyzed: 01/18/21 08:53			
Bromochloromethane (1)	129676	2.876	155833	2.873	83	60 - 140	0.0030	+/-0.50	
1,4-Difluorobenzene (1)	625438	3.477	745760	3.475	84	60 - 140	0.0020	+/-0.50	
Chlorobenzene-d5 (1)	547566	5.056	671608	5.057	82	60 - 140	-0.0010	+/-0.50	
LCS (B274844-BS1)			Lab File ID: J2101805.D			Analyzed: 01/18/21 09:18			
Bromochloromethane (1)	131116	2.876	129676	2.876	101	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (1)	626352	3.477	625438	3.477	100	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	554927	5.056	547566	5.056	101	60 - 140	0.0000	+/-0.50	
Blank (B274844-BLK1)			Lab File ID: J2101808.D			Analyzed: 01/18/21 10:44			
Bromochloromethane (1)	133331	2.86	129676	2.876	103	60 - 140	-0.0160	+/-0.50	
1,4-Difluorobenzene (1)	611917	3.468	625438	3.477	98	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (1)	536695	5.057	547566	5.056	98	60 - 140	0.0010	+/-0.50	
VP-1 (21A0105-01)			Lab File ID: J2101809.D			Analyzed: 01/18/21 14:44			
Bromochloromethane (1)	131597	2.863	129676	2.876	101	60 - 140	-0.0130	+/-0.50	
1,4-Difluorobenzene (1)	604096	3.471	625438	3.477	97	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	530817	5.057	547566	5.056	97	60 - 140	0.0010	+/-0.50	
VP-2 (21A0105-02)			Lab File ID: J2101810.D			Analyzed: 01/18/21 15:10			
Bromochloromethane (1)	136227	2.866	129676	2.876	105	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene (1)	610913	3.471	625438	3.477	98	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	545290	5.053	547566	5.056	100	60 - 140	-0.0030	+/-0.50	
Duplicate (B274844-DUP1)			Lab File ID: J2101811.D			Analyzed: 01/18/21 15:36			
Bromochloromethane (1)	136887	2.863	129676	2.876	106	60 - 140	-0.0130	+/-0.50	
1,4-Difluorobenzene (1)	613392	3.468	625438	3.477	98	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (1)	545923	5.054	547566	5.056	100	60 - 140	-0.0020	+/-0.50	
SG-3 (21A0105-03)			Lab File ID: J2101812.D			Analyzed: 01/18/21 16:02			
Bromochloromethane (1)	137571	2.87	129676	2.876	106	60 - 140	-0.0060	+/-0.50	
1,4-Difluorobenzene (1)	630855	3.475	625438	3.477	101	60 - 140	-0.0020	+/-0.50	
Chlorobenzene-d5 (1)	559816	5.057	547566	5.056	102	60 - 140	0.0010	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY

EPA TO-15

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Ambient (21A0105-04)			Lab File ID: J2101813.D			Analyzed: 01/18/21 16:33			
Bromochloromethane (1)	135642	2.863	129676	2.876	105	60 - 140	-0.0130	+/-0.50	
1,4-Difluorobenzene (1)	612847	3.468	625438	3.477	98	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (1)	541721	5.053	547566	5.056	99	60 - 140	-0.0030	+/-0.50	
SG-2 (21A0105-05)			Lab File ID: J2101814.D			Analyzed: 01/18/21 16:59			
Bromochloromethane (1)	140159	2.866	129676	2.876	108	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene (1)	638203	3.475	625438	3.477	102	60 - 140	-0.0020	+/-0.50	
Chlorobenzene-d5 (1)	559208	5.057	547566	5.056	102	60 - 140	0.0010	+/-0.50	
SG-4 (21A0105-06)			Lab File ID: J2101815.D			Analyzed: 01/18/21 17:25			
Bromochloromethane (1)	139265	2.87	129676	2.876	107	60 - 140	-0.0060	+/-0.50	
1,4-Difluorobenzene (1)	639450	3.475	625438	3.477	102	60 - 140	-0.0020	+/-0.50	
Chlorobenzene-d5 (1)	572285	5.057	547566	5.056	105	60 - 140	0.0010	+/-0.50	
VP-1 (21A0105-01RE1)			Lab File ID: J2101824.D			Analyzed: 01/19/21 07:02			
Bromochloromethane (1)	137880	2.863	129676	2.876	106	60 - 140	-0.0130	+/-0.50	
1,4-Difluorobenzene (1)	631204	3.468	625438	3.477	101	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (1)	562467	5.054	547566	5.056	103	60 - 140	-0.0020	+/-0.50	

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CONTINUING CALIBRATION CHECK

EPA TO-15

S056311-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	5.00	4.80	0.9103154	0.873204		-4.1	30
Benzene	A	5.00	4.25	0.6606025	0.5610941		-15.1	30
Benzyl chloride	A	5.00	5.09	0.5965762	0.6076754		1.9	30
Bromodichloromethane	A	5.00	4.86	0.4537953	0.4413956		-2.7	30
Bromoform	A	5.00	5.58	0.6600998	0.737159		11.7	30
Bromomethane	A	5.00	4.85	1.001177	0.9703692		-3.1	30
1,3-Butadiene	A	5.00	4.58	0.6246902	0.5721089		-8.4	30
2-Butanone (MEK)	A	5.00	4.25	1.30749	1.110941		-15.0	30
Carbon Disulfide	A	5.00	3.58	2.466469	1.766692		-28.4	30
Carbon Tetrachloride	A	5.00	4.92	0.5064752	0.4978655		-1.7	30
Chlorobenzene	A	5.00	4.62	0.7751296	0.7159217		-7.6	30
Chloroethane	A	5.00	4.71	0.5001442	0.4710077		-5.8	30
Chloroform	A	5.00	4.74	2.018779	1.912965		-5.2	30
Chloromethane	A	5.00	4.85	0.6141491	0.5961813		-2.9	30
Cyclohexane	A	5.00	4.30	0.2849344	0.2452323		-13.9	30
Dibromochloromethane	A	5.00	4.90	0.6429615	0.6304058		-2.0	30
1,2-Dibromoethane (EDB)	A	5.00	4.88	0.4841019	0.472792		-2.3	30
1,2-Dichlorobenzene	A	5.00	5.28	0.6846313	0.7228849		5.6	30
1,3-Dichlorobenzene	A	5.00	5.47	0.7215992	0.7889664		9.3	30
1,4-Dichlorobenzene	A	5.00	5.30	0.7134896	0.7567161		6.1	30
Dichlorodifluoromethane (Freon 12)	A	5.00	5.28	2.507091	2.646892		5.6	30
1,1-Dichloroethane	A	5.00	4.50	1.545303	1.390863		-10.0	30
1,2-Dichloroethane	A	5.00	4.98	1.058805	1.055603		-0.3	30
1,1-Dichloroethylene	A	5.00	4.30	1.160287	0.9985872		-13.9	30
cis-1,2-Dichloroethylene	A	5.00	4.61	1.114268	1.027138		-7.8	30
trans-1,2-Dichloroethylene	A	5.00	4.60	1.201908	1.105154		-8.1	30
1,2-Dichloropropane	A	5.00	4.22	0.2231134	0.1881178		-15.7	30
cis-1,3-Dichloropropene	A	5.00	4.63	0.3628898	0.3360205		-7.4	30
trans-1,3-Dichloropropene	A	5.00	4.61	0.3055463	0.2817891		-7.8	30
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 1	A	5.00	4.89	2.650055	2.592122		-2.2	30
1,4-Dioxane	A	5.00	4.38	0.139387	0.121983		-12.5	30
Ethanol	A	5.00	5.66	0.1702165	0.1927265		13.2	30
Ethyl Acetate	A	5.00	4.02	0.2280188	0.1831395		-19.7	30
Ethylbenzene	A	5.00	4.43	1.161395	1.028873		-11.4	30
4-Ethyltoluene	A	5.00	4.64	1.262817	1.171857		-7.2	30
Heptane	A	5.00	4.26	0.1688454	0.1438147		-14.8	30
Hexachlorobutadiene	A	5.00	5.72	0.6918294	0.7920287		14.5	30
Hexane	L	5.00	4.82	0.6531603	0.6265585		-3.5	30

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CONTINUING CALIBRATION CHECK

EPA TO-15

S056311-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
2-Hexanone (MBK)	A	5.00	4.78	0.280065	0.2676309		-4.4	30
Isopropanol	A	5.00	4.50	1.001981	0.9023104		-9.9	30
Methyl tert-Butyl Ether (MTBE)	A	5.00	4.35	2.512535	2.188026		-12.9	30
Methylene Chloride	A	5.00	4.04	0.6621826	0.5354514		-19.1	30
4-Methyl-2-pentanone (MIBK)	A	5.00	4.28	0.1531114	0.1310902		-14.4	30
Naphthalene	A	5.00	4.35	1.086932	0.9454992		-13.0	30
Propene	A	5.00	5.82	0.4641749	0.5403621		16.4	30
Styrene	A	5.00	4.59	0.7056488	0.6480607		-8.2	30
1,1,2,2-Tetrachloroethane	A	5.00	4.68	0.638583	0.5971328		-6.5	30
Tetrachloroethylene	A	5.00	5.02	0.5546794	0.5574692		0.5	30
Tetrahydrofuran	A	5.00	3.98	0.7143044	0.568975		-20.3	30
Toluene	A	5.00	4.38	0.9345011	0.8184117		-12.4	30
1,2,4-Trichlorobenzene	A	5.00	5.13	0.4260284	0.4371988		2.6	30
1,1,1-Trichloroethane	A	5.00	4.77	0.4496133	0.4291316		-4.6	30
1,1,2-Trichloroethane	A	5.00	4.62	0.3281373	0.3035426		-7.5	30
Trichloroethylene	A	5.00	4.76	0.2979469	0.2839431		-4.7	30
Trichlorofluoromethane (Freon 11)	A	5.00	4.82	2.536841	2.443357		-3.7	30
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113	A	5.00	4.12	1.957735	1.613424		-17.6	30
1,2,4-Trimethylbenzene	A	5.00	4.77	1.026744	0.9799381		-4.6	30
1,3,5-Trimethylbenzene	A	5.00	4.70	1.080978	1.015692		-6.0	30
Vinyl Acetate	A	5.00	3.91	1.400965	1.096493		-21.7	30
Vinyl Chloride	A	5.00	4.81	0.8554634	0.8223819		-3.9	30
m&p-Xylene	A	10.0	9.63	0.9185043	0.8846524		-3.7	30
o-Xylene	A	5.00	4.65	0.899786	0.8375129		-6.9	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA TO-15 in Air	
Acetone	AIHA,NY,ME,NH
Benzene	AIHA,FL,NJ,NY,ME,NH,VA
Benzyl chloride	AIHA,FL,NJ,NY,ME,NH,VA
Bromodichloromethane	AIHA,NJ,NY,ME,NH,VA
Bromoform	AIHA,NJ,NY,ME,NH,VA
Bromomethane	AIHA,FL,NJ,NY,ME,NH
1,3-Butadiene	AIHA,NJ,NY,ME,NH,VA
2-Butanone (MEK)	AIHA,FL,NJ,NY,ME,NH,VA
Carbon Disulfide	AIHA,NJ,NY,ME,NH,VA
Carbon Tetrachloride	AIHA,FL,NJ,NY,ME,NH,VA
Chlorobenzene	AIHA,FL,NJ,NY,ME,NH,VA
Chloroethane	AIHA,FL,NJ,NY,ME,NH,VA
Chloroform	AIHA,FL,NJ,NY,ME,NH,VA
Chloromethane	AIHA,FL,NJ,NY,ME,NH,VA
Cyclohexane	AIHA,NJ,NY,ME,NH,VA
Dibromochloromethane	AIHA,NY,ME,NH
1,2-Dibromoethane (EDB)	AIHA,NJ,NY,ME,NH
1,2-Dichlorobenzene	AIHA,FL,NJ,NY,ME,NH,VA
1,3-Dichlorobenzene	AIHA,NJ,NY,ME,NH
1,4-Dichlorobenzene	AIHA,FL,NJ,NY,ME,NH,VA
Dichlorodifluoromethane (Freon 12)	AIHA,NY,ME,NH
1,1-Dichloroethane	AIHA,FL,NJ,NY,ME,NH,VA
1,2-Dichloroethane	AIHA,FL,NJ,NY,ME,NH,VA
1,1-Dichloroethylene	AIHA,FL,NJ,NY,ME,NH,VA
cis-1,2-Dichloroethylene	AIHA,FL,NY,ME,NH,VA
trans-1,2-Dichloroethylene	AIHA,NJ,NY,ME,NH,VA
1,2-Dichloropropane	AIHA,FL,NJ,NY,ME,NH,VA
cis-1,3-Dichloropropene	AIHA,FL,NJ,NY,ME,NH,VA
trans-1,3-Dichloropropene	AIHA,NY,ME,NH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,NJ,NY,ME,NH,VA
1,4-Dioxane	AIHA,NJ,NY,ME,NH,VA
Ethanol	AIHA
Ethyl Acetate	AIHA
Ethylbenzene	AIHA,FL,NJ,NY,ME,NH,VA
4-Ethyltoluene	AIHA,NJ
Heptane	AIHA,NJ,NY,ME,NH,VA
Hexachlorobutadiene	AIHA,NJ,NY,ME,NH,VA
Hexane	AIHA,FL,NJ,NY,ME,NH,VA
2-Hexanone (MBK)	AIHA
Isopropanol	AIHA,NY,ME,NH
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,ME,NH,VA
Methylene Chloride	AIHA,FL,NJ,NY,ME,NH,VA
4-Methyl-2-pentanone (MIBK)	AIHA,FL,NJ,NY,ME,NH
Naphthalene	NY,ME,NH
Propene	AIHA
Styrene	AIHA,FL,NJ,NY,ME,NH,VA
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,ME,NH,VA

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA TO-15 in Air	
Tetrachloroethylene	AIHA,FL,NJ,NY,ME,NH,VA
Tetrahydrofuran	AIHA
Toluene	AIHA,FL,NJ,NY,ME,NH,VA
1,2,4-Trichlorobenzene	AIHA,NJ,NY,ME,NH,VA
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,ME,NH,VA
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,ME,NH,VA
Trichloroethylene	AIHA,FL,NJ,NY,ME,NH,VA
Trichlorofluoromethane (Freon 11)	AIHA,NY,ME,NH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,NJ,NY,ME,NH,VA
1,2,4-Trimethylbenzene	AIHA,NJ,NY,ME,NH
1,3,5-Trimethylbenzene	AIHA,NJ,NY,ME,NH
Vinyl Acetate	AIHA,FL,NJ,NY,ME,NH,VA
Vinyl Chloride	AIHA,FL,NJ,NY,ME,NH,VA
m&p-Xylene	AIHA,FL,NJ,NY,ME,NH,VA
o-Xylene	AIHA,FL,NJ,NY,ME,NH,VA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2021
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2021
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2021
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2021
ME	State of Maine	MA00100	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2021
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2021
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021

con-test ANALYTICAL LABORATORY

21A0105

Phone: 413-525-2332
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Email: info@contestlabs.com

http://www.contestlabs.com

Doc #378 Rev 1_03242017

CHAIN OF CUSTODY RECORD (AIR)

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 1

Company Name: LE Environmental LLC
Address: 21 N Main St, Unit #1, Waterbury, VT
Phone: 802-917-2001
Project Name: PIGEON PROPERTY
Project Location: WESTFORD, VT
Project Number: 19-135
Project Manager: Angela Emerson
Con-Test Quote Name/Number:
Invoice Recipient: Angela Emerson angela@leenvironet
Sampled By: Angela Emerson

Requested Turnaround Time
7-Day ☐ 10-Day ☒
Due Date:

Prior Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☒ EXCEL ☐
Other:
CLP Like Data Pkg Required: ☐
Email To: angela@leenvironet
Fax To #:

ANALYSIS REQUESTED

Lab Use	Client Use	Collection Data		Duration	Flow Rate	Matrix	Volume	TO-15				" Hg			Please fill out completely, sign, date and retain the yellow copy for your records	
Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Total Minutes Sampled	☐ m³/min ☐ L/min	Code	☐ Liters ☐ m³					Initial Pressure	Final Pressure	Lab Receipt Pressure	Summa Can ID	Flow Controller ID
01	VP-1	1/5/21 0944	1142	118		SS		X				-30	-5	5.2	BL2044	4410
02	VP-2	1/5/21 0949	1147	120		SS		X				-30	-7	7.1	BL2044	4408
03	SG-3	1/5/21 1015	1215	117		SG		X				-29	-5	5.4	BL1985	4406
04	Ambient	1/5/21 1023	1223	120		IA		X				-28	-7	7.9	BL1672	4407
05	SG-2	1/5/21 1117	1317	120		SG		X				-30	-5	3.9	BL1161	4429
06	SG-4	1/5/21 1135	1352	117		SG		X				-29	-5	5	BL1853	4446

Summa canisters and flow controllers must be returned within 15 days of receipt or rental fees will apply

For summa canister and flow controller information please refer to Con-Test's Air Media Agreement

Comments:

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Matrix Codes:
SG = SOIL GAS
IA = INDOOR AIR
AMB = AMBIENT
SS = SUB SLAB
D = DUP
BL = BLANK
O = Other_____

Relinquished by: (signature)	Date/Time: 1/5/21	
Received by: (signature)	Date/Time: 1/6/21	
Relinquished by: (signature) GMM	Date/Time: 1-6-21	
Received by: (signature)	Date/Time: 1/6/21 9:35am	
Relinquished by: (signature)	Date/Time: 1/6/21 1445	
Received by: (signature)	Date/Time: 1/6/21 1445	

Detection Limit Requirements
MA
CT 5.35 ug/m3

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ Other

Other: VT IRUCR RESIDENTIAL

con-test ANALYTICAL LABORATORY www.contestlabs.com

NELAC and AIHA-LAP, LLC Accredited

Project Entity
☐ Government ☐ Municipality ☐ MWRA ☐ WRTA
☐ Federal ☐ 21 J ☐ School
☐ City ☒ Brownfield ☐ MBTA

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

PCB ONLY
☐ Soxhlet
☐ Non Soxhlet

Table of Contents

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 278 Rev 6 2017

Air Media Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client LE Environmental

Received By RLF Date 11/6/21 Time 1445

How were the samples received? In Cooler ____ On Ice ____ No Ice ____ In Box T Ambient ____ Melted Ice ____

Were samples within Temperature Compliance? 2-6°C LA By Gun # ____ Actual Temp - ____ By Blank # ____ Actual Temp - ____

Was Custody Seal Intact? LA Were Samples Tampered with? NA

Was COC Relinquished ? T Does Chain Agree With Samples? T

Are there any loose caps/valves on any samples? F

Is COC in ink/ Legible? T

Did COC Include all Pertinent Information? Client T Analysis T Sampler Name T Project T ID's T Collection Dates/Times T

Are Sample Labels filled out and legible? T

Are there Rushes? F Who was notified? ____

Samples are received within holding time? T

Proper Media Used? T Individually Certified Cans? F

Are there Trip Blanks? F Is there enough Volume? T

Containers:	#	Size	Regulator	Duration	Accessories:			
Summa Cans	7	6L	7	2hr	Nut/Ferrule	6	IC Train	
Tedlar Bags					Tubing	15 ft		
TO-17 Tubes					T-Connector		Shipping Charges	
Radiello					Syringe			
Pufs/TO-11s					Tedlar			

Can #'s					Reg #'s				
2021					4410				
2044					4408				
1985					4406				
11072					4407				
11121					4429				
18533					4416				
Unused Media					**Pufs/TO-17's**				
21816	(-29.6)	4402							

Comments:

Appendix E

Data Validation Report

LE·Environmental

21 North Main Street • Waterbury, Vermont 05676
Phone: (802) 917-2001 • www.leenv.net

Data Validation Report
Pigeon Property
1705 VT Route 128, Westford, VT
February 10, 2021

Sampling Summary

The project scope included collection of ten soil samples, two rounds of groundwater samples, one drinking water sample, and five soil gas samples from the Site. Quality Assurance samples included a duplicate soil sample, two duplicate groundwater samples, two aqueous trip blanks, and an ambient air sample collected simultaneously with the soil gas samples.

Sampling Procedures and Protocols

Sampling was performed in accordance with the procedures specified in the SSQAPP addendum with one exception: Proposed soil gas sample SG-1 could not be collected due to high groundwater conditions resulting in flooding of the soil gas probe.

Field data sheets and the field notebooks were reviewed to ensure proper documentation of the sampling conditions. All entries were made with permanent ink. Entries included the identity of the sampler, sampling location, time, and date. All entries and equipment used were recorded on the daily work report.

The chain of custody forms were reviewed to ensure the sample identification, number, type and size of sample containers, preservatives used; and signatures were properly recorded and were in accordance with the SSQAPP addendum.

The laboratory cover sheets, sample acceptance forms and case narratives were reviewed. All samples adhered to the laboratories' acceptance policies. All samples were analyzed in accordance with laboratory SOPs. No deviations from laboratory protocols were noted on the laboratory cover sheets.

All samples arrived at the laboratories under chain-of-custody procedures and at appropriate temperature and sample condition, and all analyses were performed within the EPA Method specified holding times.

Data Validation Report
Pigeon Property
Westford, VT
February 10, 2021

Laboratory Notes

The following notes are present on the laboratory analytical reports received:

- Soil: There are no laboratory notes or data qualifiers associated with the EAI soil analytical report for samples collected on December 21, 2020.
- Groundwater
    - The EAI laboratory report for groundwater samples collected December 3, 2020 indicates a reporting limit of 0.5 ppb for EDB. Laboratory notes indicate that EDB was assessed down to a concentration of 0.05 ppb (except for MW-1), and that no EDB was detected. Had EDB been detected, its concentration would have been estimated and "J" flagged.
    - The EAI laboratory report for groundwater samples collected January 7, 2021 indicates:
        - Trans-1,2-Dichloroethane exhibited recovery above acceptance limits in the quality control samples. The analyte was not detected in the samples.
        - MW-1: EDB and 1,2,3-Trichloropropane were not assessed to 0.05 ppb and 0.02 ppb, respectively, due to sample dilution.
        - MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, duplicate, trip blank: The laboratory reporting limits for EDB and 1,2,3-Trichloropropane were 0.5 ppb; Laboratory notes indicate that these VOCs were assessed down to a concentration of 0.05 ppb (except for MW-1), and that neither VOC was detected. Had either been detected, its concentration would have been estimated and "J" flagged.
- Soil gas
    - The Con-test laboratory report for soil gas and ambient air samples collected on January 5, 2021 indicates that LCS/LCS Duplicate recovery was acceptable for all VOCs except LCS recovery for 1,2,4-Trichlorobenzene (68.3%) and naphthalene (60%) were outside of the 70-130% recovery range. Neither VOC was detected in the soil gas samples or in the ambient air sample. The LCS results suggest the laboratory results could be biased slightly low. However, the difference between the naphthalene reporting limit (0.52 ug/m3) and the VI Residential Standard (1.0 ug/m3) indicates that an undetected standards exceedence is not likely. There is no VI Residential Standard for 1,2,4-Trichlorobenzene in soil gas.
    - The Con-test laboratory report for samples collected on January 5, 2021 indicates that Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for 1,2,4-Trichlorobenzene. Reported result would be estimated values, but all values were non-detectable.

Trip and Laboratory Blanks

An aqueous trip blank was submitted with each round of groundwater samples. The trip blanks were brought into the field and handled with the other samples obtained during the assessment. No contaminants were detected in the blanks, which indicates there was no contamination of samples resulting from handling in the field or while in transit. The laboratories prepared method blanks for all analyses performed and reported no detection of compounds.

MS/MSD and LCS/LCSD

The laboratories performed laboratory control samples/laboratory control sample duplicate (LCS/LCSD) analysis. All LCS analysis met the laboratory acceptance criteria for recovery and relative percent difference (RPD) except as follows:

- During analysis of groundwater samples collected January 7, 2021, Dichlorodifluoromethane and vinyl chloride exhibited LCS and/or LCSD recoveries slightly higher than laboratory control limits. Neither VOC is a compound of concern at this Site.
- The Con-test laboratory report for soil gas and ambient air samples collected on January 5, 2021 indicates that LCS/LCS Duplicate recovery was acceptable for all VOCs except LCS recovery for 1,2,4-Trichlorobenzene (68.3%) and naphthalene (60%) were outside of the 70-130% recovery range.

RPD

RPD values were calculated for the field duplicates and corresponding samples.

- A soil sample (SS-107) and duplicate soil sample collected on December 21, 2020 were analyzed for PAHs. Calculated RPD was <50% for three PAHs (acenaphthylene, indeno[1,2,3-cd]pyrene, benzo[g,h,i]perylene). RPD exceeded 50% for eight PAHs (phenanthrene, fluoranthene, pyrene, Benzo[a]anthracene, Chrysene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Benzo[a]pyrene). RPD could not be calculated for seven PAHs. The sample results were higher than the duplicate sample results for all detected analytes, and the sample results were used for decision making. These results suggest a high degree of variability in PAH concentrations in the soil matrix.
- A groundwater sample (MW-2) and duplicate groundwater sample collected on December 3, 2020 were analyzed. One VOC (ethylbenzene) was reported in both the MW-2 sample and the duplicate. The calculated RPD was 3%, which is below the 30% threshold in the SSQAPP Addendum.
- A groundwater sample (MW-2) and duplicate groundwater sample collected on January 7, 2021 were analyzed. One VOC (ethylbenzene) was reported in both the MW-2 sample

and the duplicate. The calculated RPD was 2%, which is below the 30% upper threshold in the SSQAPP Addendum.

Surrogate Recovery

Surrogate recovery analyses performed by the laboratories were within acceptable ranges.

Reporting Limits

Laboratory reporting limits were compared with applicable regulatory criteria for each tested compound as published in the Department of Environmental Conservation Investigation and Remediation of Contaminated Properties Rule and the Groundwater Protection Rule and Strategy. The following observations were made.

- The soil sample laboratory reporting limits were below the residential regulatory threshold criteria but were slightly elevated above form K values. This situation does not affect the usability of the soil sample data.
- All groundwater sample laboratory reporting limits were at or below the VGES except EDB and 1,2,3-Trichloropropane; Reporting limit was 0.5 ppb; Laboratory report notes indicate both VOCs were assessed down to the VGES (0.05 / 0.02 ppb) for all but MW-1 and neither VOC was detected.
- Reporting limits for five VOCS in groundwater (vinyl chloride, chloroform, carbon tetrachloride, benzene and TCE) exceeded the DEC I-Rule groundwater vapor intrusion standards for residential properties. However, the soil gas testing performed during this assessment did not indicate these compounds to be of concern in soil gas. Of the listed VOCs, only benzene was detected in the ambient air sample, and none of the listed VOCs were detected in the soil gas samples.

Findings and Conclusions

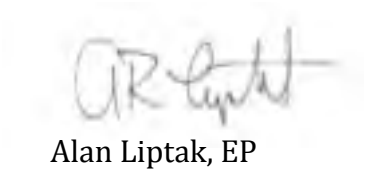
Based on the findings presented above, all data should be accepted without condition. Noted deviations from laboratory control limits do not affect the contaminants of concern for this assessment.

- The inability to collect a soil gas sample from location SG-1 does not materially affect the outcome of the investigation. Soil gas testing results are available for five locations on Site, which is sufficient data for decision making. EPA Method 8260 VOC testing data from a groundwater monitoring well (MW-6) located 4' from SG-1 showed only trace concentrations of two petroleum-related VOCs (isopropylbenzene and n-propylbenzene), neither of which have VGES or soil vapor intrusion standards in Vermont.
- The soil RPD data indicate a high degree of variability in the soil matrix. Several PAH RPDs were below the 50% threshold in the SSQAPP, and several were above it. The sample results were higher than the duplicate sample results. The sample

results were used for decision making during the project, which is a conservative approach using the higher set of analytical values.

- The EAI laboratory reporting limit for EDB in groundwater was 0.5 ppb, which was above the VGES of 0.05 ppb. However, the laboratory notes indicate that EDB was assessed down to the VGES concentration of 0.05 ppb, and none was detected. Had detections been made, they would have been considered to be estimated values. It is concluded that EDB is not present in groundwater at the Site at concentrations over the VGES, except that this conclusion is not made for MW-1 due to dilution related elevated reporting and detection limits.
- The LCS/LCS duplicate recovery of Trans-1,2-Dichloroethane was biased high in laboratory quality control samples for groundwater samples, but this VOC was not detected in any of the groundwater samples.
- The EAI laboratory reporting limit for 1,2,3-Trichloroprpane in groundwater was 0.5 ppb, which was above the VGES of 0.02 ppb. However, the laboratory notes indicate that 1,2,3-Trichloropropane was assessed down to the VGES concentration of 0.02 ppb, and none was detected. Had detections been made, they would have been considered to be estimated values. It is concluded that 1,2,3-Trichloropropane is not present in groundwater at the Site at concentrations over the VGES, except that this conclusion is not made for MW-1 due to dilution related elevated reporting and detection limits.
- The Con-Test analytical report indicates the LCS recovery for 1,2,4-Trichlorobenzene and naphthalene were biased slightly low. However, the difference between the naphthalene reporting limit (0.52 ug/m3) and the VI Residential Standard (1.0 ug/m3) indicates that an undetected standards exceedence is not likely. There is no VI Residential Standard for 1,2,4-Trichlorobenzene in soil gas.

Respectfully Submitted,



Alan Liptak, EP
Project Quality Assurance Officer

Data Validation Summary Table
Soil Samples
1705 VT-128, Westford, Vermont
LEE #19-138

Sample Name	SB-101	SB-102	SB-103	SB-104	SB-105	SB-106	SB-107	SB-108	SB-109	SB-110	Duplicate SB-107
Laboratory	Eastern Analytical, Inc.										
Lab sample number	220359.01	220359.02	220359.03	220359.04	220359.05	220359.06	220359.07	220359.08	220359.09	220359.1	220359.11
Date Sampled	12/21/20										
Date of Extraction	12/23/20										
Date of Analysis	12/28/20	12/28/20	12/28/20	12/29/20	12/28/20	12/28/20	12/28/20	12/28/20	12/28/20	12/28/20	12/28/20
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Was analysis completed within EPA Method specified holding time?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Were the samples properly handled under COC guidelines?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Were the samples properly chilled? (0-6 degrees C)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Were any compounds detected in blanks?	N	N	N	N	N	N	N	N	N	N	N
Were the samples properly labeled?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Relative Percent Difference (RPD) acceptable? (<=50% RPD)	N/A	N/A	N/A	N/A	N/A	N/A	Note 2	N/A	N/A	N/A	Note 2
Were laboratory surrogate recovery concentrations acceptable?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Were laboratory control samples and duplicates acceptable?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Reporting limits meet Form K values	N (1)	N (1)	Note 1	Note 1	N (2)	Note 1	N (1)	N (1)	N (1)	N (1)	N (1)
Are reporting limits at or below applicable standards?	Y	Y	Note 1	Note 1	Y	Note 1	Y	Y	Y	Y	Y

Notes:

Y=Yes, N=No, N/A=Not applicable to sample

N (1): Laboratory reporting limit for PAHs was 0.008 milligrams per kilogram, versus 0.007 milligrams per kilogram in form K. This difference does not affect data usability

Note 1: Laboratory reporting limit for PAHs not indicated, there were no non-reported compounds.

N (2): Laboratory reporting limit for PAHs was 0.02 milligrams per kilogram, versus 0.007 milligrams per kilogram in form K. This difference does not affect data usability.

Note 2: RPD is <50% for three PAHs (acenaphthylene, indeno[1,2,3-cd]pyrene, benzo[g,h,i]perylene). RPD could not be calculated for seven PAHs.RPD exceeded 50% for eight PAHs (phenanthrene, fluoranthene, pyrene, Benzo[a]anthracene, Chrysene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Benzo[a]pyrene.

Relative Percent Difference Calculations
Soil Samples
1705 Route 128, Westford, Vermont

Soil Sample	*SB-107*	*Duplicate*	*Relative*
Sample Depth (ft.)	*0-1.5*		*Percent*
PID reading (ppm)	*0.2*		*Difference*
Sample Date	*12/21/20*		*(%)*
PAH EPA Method 8270 (mg/kg)			
Naphthalene	**0.0098**	ND<0.008	-
2-Methylnaphthalene	ND<0.008	ND<0.008	-
1-Methylnaphthalene	ND<0.008	ND<0.008	-
Acenaphthylene	**0.044**	**0.017**	44
Acenaphthene	ND<0.008	ND<0.008	-
Fluorene	**0.027**	ND<0.008	-
Phenanthrene	**0.23**	**0.022**	83
Anthracene	**0.041**	ND<0.008	-
Fluoranthene	**0.33**	**0.063**	68
Pyrene	**0.22**	**0.052**	62
Benzo(a)anthracene	**0.12**	**0.032**	58
Chrysene	**0.13**	**0.034**	59
Benzo(b)fluoranthene	**0.21**	**0.060**	56
Benzo(k)fluoranthene	**0.081**	**0.023**	56
Benzo(a)pyrene	**0.16**	**0.047**	55
Indeno(1,2,3-cd)pyrene	**0.065**	**0.023**	48
Dibenz(a,h)anthracene	**0.015**	ND<0.008	-
Benzo(g,h,i)perylene	**0.056**	**0.022**	44

Data Validation Summary Table
Groundwater Samples
1705 VT 128, Westford, Vermont
LEE #19-138

Sample Name	DWS	MW-5	MW-4	MW-3	MW-2	Duplicate	MW-1	Trip Blank
Laboratory	Eastern Analytical, Inc.							
Lab sample number	219630.01	219630.02	219630.03	219630.04	219630.05	219630.06	219630.07	219630.08
Date Sampled	12/3/20							10/26/20
Date of Analysis	12/8/20	12/7/20	12/7/20	12/7/20	12/7/20	12/8/20	12/8/20	12/7/20
Sample Type	Drinking Water	GW	GW	GW	GW	GW	GW	Water
Was analysis completed within EPA Method specified holding time?	Y	Y	Y	Y	Y	Y	Y	Y
Were the samples properly handled under COC guidelines?	Y	Y	Y	Y	Y	Y	Y	Y
Were the samples properly chilled? (0-6 degrees C)	Y	Y	Y	Y	Y	Y	Y	Y
Were any compounds detected in blanks?	N	N	N	N	N	N	N	N
Were the samples properly labeled?	Y	Y	Y	Y	Y	Y	Y	Y
Relative Percent Difference (RPD) acceptable? (<=30% RPD)	N/A	N/A	N/A	N/A	Y	Y	N/A	N/A
Were laboratory surrogate recovery concentrations acceptable?	Y	Y	Y	Y	Y	Y	Y	Y
Were laboratory control samples and duplicates acceptable?	Y	Y	Y	Y	Y	Y	Y	Y
Reporting limits meet Form K values	N/A	Y (2)	Y (2)	Y (2)	Y (2)	Y (2)	N (1)	Y (2)
Are reporting limits at or below applicable standards?	Y (1)	Y (3)	Y (3)	Y (3)	Y (3)	Y (3)	N (1)	Y (3)

Notes:
Y=Yes, N=No, N/A=Not applicable to sample; GW = groundwater
Y (1):Yes except for 1,2-dibromo-3-chloropropane
Y (2) Yes except napthalene
Y (3): Yes except EDB; Reporting limit was 0.5 ppb; Laboratory report notes indicate EDB was assessed down to the VGES (0.05 ppb) for all but MW-1 and no EDB was detected.
N (1): Reporting limits for MW-1 sample were elevated above form K values and regulatory standards due to required sample dilution

Sample Name	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	Duplicate	Trip Blank
Laboratory	Eastern Analytical, Inc.									
Lab sample number	220966.01	220966.02	220966.03	220966.04	220966.05	220966.06	220966.07	220966.08	220966.09	220966.1
Date Sampled	1/7/21									10/26/20
Date of Analysis	1/12/21	1/11/21	1/11/21	1/12/21	1/12/21	1/12/21	1/12/21	1/12/21	1/12/21	1/11/21
Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	Water
Was analysis completed within EPA Method specified holding time?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Were the samples properly handled under COC guidelines?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Were the samples properly chilled? (0-6 degrees C)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Were any compounds detected in blanks?	N	N	N	N	N	N	N	N	N	N
Were the samples properly labeled?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Relative Percent Difference (RPD) acceptable? (<=30% RPD)	N/A	Y	N/A	N/A	N/A	N/A	N/A	N/A	Y	N/A
Were laboratory surrogate recovery concentrations acceptable?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Were laboratory control samples and duplicates acceptable?	Y (1)	Y (1)	Y (1)	Y (1)	Y (1)	Y (1)	Y (1)	Y (1)	Y (1)	Y (1)
Reporting limits meet Form K values	N (1)	Y (2)	Y (2)	Y (2)	Y (2)	Y (2)	Y (2)	Y (2)	Y (2)	Y (2)
Are reporting limits at or below applicable standards?	N (1)	Y (3)	Y (3)	Y (3)	Y (3)	Y (3)	Y (3)	Y (3)	Y (3)	Y (3)

Notes:
Y=Yes, N=No, N/A=Not applicable to sample; GW = groundwater
Y (1): Yes, except for dichlorodifluoromethane and vinyl chloride, which exhibited LCS and/or LCSD recoveries slightly higher than laboratory control limits. Neither VOC is a compound of concern at this Site.
Y (2) Yes except napthalene
Y (3): Yes except EDB and 1,2,3-Trichloropropane; Reporting limit was 0.5 ppb; Laboratory report notes indicate both VOCS were assessed down to the VGES (0.05 / 0.02ppb) for all but MW-1 and neither VOC was detected.
N (1): Reporting limits for MW-1 sample were elevated above form K values and regulatory standards due to required sample dilution

Relative Percent Difference Calculations
Groundwater Samples
1705 Route 128, Westford, Vermont

Sample *Sample Date*	*MW-2* *12/3/20*	*Duplicate*	*Relative %* *Difference*
VOCs, EPA Method 8260C (mg/kg)			
Methyl-t-butyl ether (MTBE)	ND<1	ND<1	-
Benzene	ND<1	ND<1	-
1,2-Dichloroethane	ND<1	ND<1	-
Toluene	ND<1	ND<1	-
1,2-Dibromoethane(EDB)	ND<0.5	ND<0.5	-
Ethylbenzene	**1.5**	**1.4**	3
mp-Xylene	ND<1	ND<1	-
o-Xylene	ND<1	ND<1	-
1,3,5-trimethylbenzene	ND<1	ND<1	-
1,2,4-trimethylbenzene	ND<1	ND<1	-
1,2,3-trimethylbenzene	ND<1	ND<1	-
Naphthalene	ND<0.5	ND<0.5	-

Relative Percent Difference Calculations
Groundwater Samples
1705 Route 128, Westford, Vermont

Sample	*MW-2*	*Duplicate*	*Relative %*
Sample Date	*1/7/21*		*Difference*
VOCs, EPA Method 8260C (mg/kg)			
Dichlorodifluoromethane	ND<2	ND<2	-
Chloromethane	ND<2	ND<2	-
Vinyl Chloride	ND<1	ND<1	-
Bromomethane	ND<2	ND<2	-
Chloroethane	ND<2	ND<2	-
Trichlorofluoromethane	ND<2	ND<2	-
Diethyl Ether	ND<2	ND<2	-
Acetone	ND<10	ND<10	-
1 ,1-Dichloroethene	ND<0.5	ND<0.5	-
Methylene chloride	ND<1	ND<1	-
Carbon disulfide	ND<2	ND<2	-
Methyl-t-butyl ether (MTBE)	ND<1	ND<1	-
trans-1,2-Dichloroethene	ND<1	ND<1	-
1,1-Dichloroethane	ND<1	ND<1	-
2,2-Dichloropropane	ND<1	ND<1	-
cis-1,2-Dichloroethene	ND<1	ND<1	-
2-Butanone(MEK)	ND<10	ND<10	-
Bromochloromethane	ND<1	ND<1	-
Tetrahydrofuran(THF)	ND<10	ND<10	-
Chloroform	ND<1	ND<1	-
1,1,1-Trichloroethane	ND<1	ND<1	-
Carbon tetrachloride	ND<1	ND<1	-
1 ,1-Dichloropropene	ND<1	ND<1	-
Benzene	ND<1	ND<1	-
1,2-Dichloroethane	ND<1	ND<1	-
Trichloroethene (TCE)	ND<1	ND<1	-
1,2-Dichloropropane	ND<1	ND<1	-
Dibromomethane	ND<1	ND<1	-
Bromodichloromethane	ND<0.5	ND<0.5	-
4-Methyl-2-pentanone(MIBK)	ND<10	ND<10	-
cis-1,3-Dichloropropene	ND<0.5	ND<0.5	-
Toluene	ND<1	ND<1	-
trans-1,3-Dichloropropene	ND<0.5	ND<0.5	-
1,1,2-Trichloroethane	ND<1	ND<1	-
2-Hexanone	ND<10	ND<10	-

Relative Percent Difference Calculations
Groundwater Samples
1705 Route 128, Westford, Vermont

Sample	*MW-2*	*Duplicate*	*Relative %*
Sample Date	*1/7/21*		*Difference*
Tetrachloroethene (PCE)	ND<1	ND<1	-
1,3-Dichloropropane	ND<1	ND<1	-
Dibromochloromethane	ND<1	ND<1	-
1,2-Dibromoethane(EDB)	ND<0.5	ND<0.5	-
Chlorobenzene	ND<1	ND<1	-
1,1,1,2-Tetrachloroethane	ND<1	ND<1	-
Ethylbenzene	**2**	**2.1**	2
mp-Xylene	ND<1	ND<1	-
o-Xylene	ND<1	ND<1	-
Styrene	ND<1	ND<1	-
Bromoform	ND<2	ND<2	-
IsoPropylbenzene	ND<1	ND<1	-
Bromobenzene	ND<1	ND<1	-
1,1,2,2-Tetrachloroethane	ND<1	ND<1	-
1,2,3-Trichloropropane	ND<0.5	ND<0.5	-
n-Propylbenzene	ND<1	ND<1	-
2-Chlorotoluene	ND<1	ND<1	-
4-Chlorotoluene	ND<1	ND<1	-
1,3,5-trimethylbenzene	**1**	**1.1**	5
tert-Butylbenzene	ND<1	**1.2**	-
1,2,4-trimethylbenzene	ND<1	ND<1	-
sec-Butylbenzene	ND<1	**1.2**	-
1,3-Dichlorobenzene	ND<1	ND<1	-
1,2,3-Trimethylenzene	ND<1	ND<1	-
p-Isopropyltoluene	ND<1	ND<1	-
1,4-Dichlorobenzene	ND<1	ND<1	-
1,2-Dichlorobenzene	ND<1	ND<1	-
n-Butylbenzene	ND<1	ND<1	-
1,2-Dibromo-3-chloropropane	ND<0.2	ND<0.2	-
1,2,4-Trichlorobenzene	ND<1	ND<1	-
Hexachlorobutadiene	ND<0.5	ND<0.5	-
Naphthalene	ND<0.5	ND<0.5	-
1,2,3-Trichlorobenzene	ND<0.5	ND<0.5	-

Data Validation Summary Table
Soil Gas Sampling Summary
1705 VT-128, Westford, Vermont
LEE #19-138

Sample Name	VP-1	VP-2	SG-2	SG-3	SG-4	Ambient
Laboratory	Con-Test Analytical Laboratory					
Lab sample number	21A0105-01	21A0105-02	21A0105-05	21A0105-03	21A0105-06	21A0105-04
Date Sampled	1/5/21					
Date of Analysis	1/18-19/2021	1/18/21		1/18/21		
Sample Type	Sub slab soil gas		Soil Gas			Outdoor air
Was analysis completed within EPA Method specified holding time?	Y	Y	Y	Y	Y	Y
Were the samples properly handled under COC guidelines?	Y	Y	Y	Y	Y	Y
Were any compounds detected in blanks?	N	N	N	N	N	N
Were the samples properly labeled?	Y	Y	Y	Y	Y	Y
Were laboratory surrogate recovery concentrations acceptable?	Y	Y	Y	Y	Y	Y
Were laboratory control samples and duplicates acceptable?	Y (1)	Y (1)	Y (1)	Y (1)	Y (1)	Y (1)
Reporting limits meet Form K values	Y	Y	Y	Y	Y	Y
Are reporting limits below applicable standards?	Y	Y	Y	Y	Y	Y

Notes:
Y=Yes, N=No, N/A=Not applicable to sample
Y (1): Yes for all VOCs except LCS recovery for 1,2,4-Trichlorobenzene (68.3%) and naphthalene (60%) were outside of the 70-130% recovery range.

Appendix F

Field Notes

1705 ROUTE 128
WESTFORD, VT
SOIL SAMPLING FIELD FORM
JOB # 19-138

DATE: 12/21/20 INSPECTORS(S): AE/AL

Equipment Needed: PID, Mag, Handauger, EAI containers, markers, chain of custody, decon equipment (coolers, gloves, alconox, distilled water, etc.), peristaltic pump, tubing

TASK 1: Advance 10 shallow soil borings in the area around the garage and in the parking area wast of the garage. The borings shall be advanced to a depth of 18" bg. Submit one sample from each boring, and a duplicate sample, for the following:

- **PAHs via EPA Method 8270d**

SOIL SAMPLES

Sample #	Time	Location/Depth	PID
SB-101	0925	SB-101 / 0-18"	0.1
SB-102	1355	SB-102/0-18"	0.0
SB-103	1345	SB-103/0-18"	0.0
SB-104	1335	SB-104/0-18"	0.1
SB-105	1330	SB-105/0-18"	0.1
SB-106	1150	SB-106/0-18"	0.1
SB-107	1115	SB-107/0-18"	0.2
SB-108	1255	SB-108/0-18"	0.1
SB-109	1235	SB-106/0-18"	0.1
SB-110	1320	SB-110/0-18"	0.1
Duplicate: SB-107	1115	SB-107/0-18"	0.2

TASK 2: Install 3 groundwater monitoring wells (MW-6, MW-7, and MW-8) at the locations depicted on the map. Develop and survey after installation.

LE Environmental LLC
Pigeon Property
Groundwater monitoring
Field Data Form

Monitoring Well MW-1

Technician: AE

Date: 12/3/20

Depth to Water: 2.86 (4.45' 6/17/20) - 15' DTB

Time	pH	Cond	Temp	Turb
1120	7.04	2.14 mS	8.8	772
1124	7.21	2.18	8.3	869
1130	7.23	2.34	8.2	720
1135	7.23	2.40	8.2	568
1140	7.24	2.39	8.2	711

* Sheen + Strong Petro Odor

* Sampled 1145

LE Environmental LLC
Pigeon Property **Monitoring Well MW-2**
Groundwater monitoring
Field Data Form

Technician: AE

Date: 12/3/20

Depth to Water: 5.81 (6.26' 6/17/20) - 15' DTB

Time	pH	Cond	Temp	Turb
1053	6.95	455	9.7	366
1057	6.83	437	10.3	851
1102	6.78	473	10.3	749

*Dewatered 1103

*Sampled 1115
*Duplicate location

LE Environmental LLC
Pigeon Property **Monitoring Well MW-3**
Groundwater monitoring
Field Data Form

Technician: AE

Date: 12/3/20

Depth to Water: 4.70' (11.59' 6/17/20) - 15' DTB

Time	pH	Cond	Temp	Turb
1024	6.75	1016	9.0	16.8
1029	6.81	1071	8.9	17.8
1034	6.87	1242	9.6	13.4

*Dewatered 1036

*Sampled 1045

LE Environmental LLC
Pigeon Property **Monitoring Well MW-4**
Groundwater monitoring
Field Data Form

Technician: AE

Date: 12/3/20

Depth to Water: 5.09 (11.07' 6/17/20) - 15' DTB

Time	pH	Cond	Temp	Turb
0951	6.43	824	9.4	851
0956	6.63	862	9.4	351
1001	6.64	864	9.7	802
1005	6.68	866	9.4	106

*Dewatered 1008

*Sampled 1015

LE Environmental LLC
Pigeon Property **Monitoring Well MW-5**
Groundwater monitoring
Field Data Form

Technician: AE

Date: 12/3/20

Depth to Water: 8.62 (10.97' 6/17/20) -12' DTB

Time	pH	Cond	Temp	Turb
0930	6.52	416	8.8	550

* Dewatered 0932

*Sampled recharge 0940

LE Environmental LLC
Pigeon Property **Monitoring Well MW-1**
Groundwater monitoring
Field Data Form

Technician: AE

Date: 1/7/21

Depth to Water: 3.57

Time	pH	Cond	Temp	Turb
1323	6.98 6.59	3.14mS	5.2	344
1328	7.03	3.00mS	5.3	673
1332	7.08	3.16mS	5.7	578
1336	7.08	3.44mS	5.4	675
1339	7.11	3.43	5.6	635

DTB - 15'

DTW - 12/3 - 2.86

Dewatered 1340

Sampled 1350

LE Environmental LLC
Pigeon Property
Groundwater monitoring
Field Data Form

Monitoring Well MW-2

Technician: AE

Date: 1/7/21

Depth to Water: 6.19

Time	pH	Cond	Temp	Turb
1114	6.58	636	7.6	794
1117	6.75	495	8.2	340
1121	6.75	497	7.3	814

DTB - 15'
DTW - 5.81 12/3/20

Purged dry 1125

Sampled 1140

Duplicate Location

LE Environmental LLC
Pigeon Property
Groundwater monitoring
Field Data Form

Monitoring Well MW-3

Technician: AE

Date: 1/7/21

Depth to Water: 9.37

Time	pH	Cond	Temp	Turb
0935	6.79	1467	7.8	73.2
0940	6.95	1502	8.2	119

DTB - 15'

~~DTW 11.54 12~~
4.70 12/3

Purged dry 0945
Collected sample
1000 -
1045

LE Environmental LLC
Pigeon Property
Groundwater monitoring
Field Data Form

Monitoring Well MW-4

Technician: AE

Date: 1/7/24

Depth to Water: 7.25'

DTB - 15'

DTW - 5.09 ft/3

Time	pH	Cond	Temp	Turb	
0900	6.40	700	6.5°	0.02(>)	
0905	6.48	704	8.3	~~0.02(>)~~*	762
0910	6.55	741	8.7	81.9	

*Purged dry at 0911

sampled 0925

LE Environmental LLC
Pigeon Property
Groundwater monitoring
Field Data Form

Monitoring Well MW-5

Technician: AE

Date: 1/7/20

Depth to Water: 10.27'

Time	pH	Cond	Temp	Turb
0820	6.84	809	6.6°	604

DTB - 12'

DTW - 8.62 12/3

Ran Dry at 0821

Sampled at 0835

LE Environmental LLC
Pigeon Property
Groundwater monitoring
Field Data Form

Monitoring Well MW-6

Technician: AE

Date: 11/7/24

Depth to Water: 3.80

Time	pH	Cond	Temp	Turb	
1222	6.49	781	5.8	497	Dewatered 1234
1227	6.70	782	5.4	778	
1233	6.73	812	6.3	853	sampled 1245

LE Environmental LLC
Pigeon Property **Monitoring Well MW-7**
Groundwater monitoring
Field Data Form

Technician: AE

Date: 1/7/21

Depth to Water: 2.09'

Time	pH	Cond	Temp	Turb	
1253	6.69	1241	6.6	411	
1257	7.03	1261	6.4	790	Dewatered 1302
1302	7.11	1268	6.5	0.02(7)	
					sampled 1315

LE Environmental LLC
Pigeon Property
Groundwater monitoring
Field Data Form

Monitoring Well MW-8

Technician: AE

Date: 1/7/21

Depth to Water: 6.31

Time	pH	Cond	Temp	Turb
1048	6.75	4.58mS	6.0	706
1052	6.82	4.51mS	6.9	520

* Purged dry 1053

+sampled 1105

1705 ROUTE 128
WESTFORD, VT
SOIL SAMPLING FIELD FORM
JOB # 19-138

DATE: 1/5/21 INSPECTORS(S): AE

Equipment Needed:

- **PID**
- **Temp/humidity pen**
- **Micromanometer**
- **Tool bag with play dough**
- **Water**
- **Geotech air pump calibrated to 200 ml/min**
- **3-6 Liter Soil Gas Cans, regulators and tubing**
- **Vapor pin kit with extractor**
- **Hydraulic cement**
- **Decon stuff**
- **Tools (1/2" and 7/16" wrenches, utility knife, screwdriver, hammer)**

Install soil gas pins-VP-1 and VP-2

QA-Interior soil gas pins

- **Locate pins, remove caps**
- **Perform QA water dam test with play-dough**

Sampling

- **Record temp, humidity, ambient PID**
- **Record differential pressure readings for each (line vs. atmosphere)**
- **Purge 5 minutes at 200 ml/min with air pump.**
- **Connect tubing to regulator to canister. Record PID reading**
- **turn on canister.**
- **Set ambient air canister at a suitable outside location.**
- **Let run 2 hours or until 3" HG remains in can, whichever comes first.**
- **Shut down, collect PID readings, differential pressure, temp/humidity.**
- **Submit 5 soil gas samples and one ambient to Contest for TO15 VOCs.**

1705 ROUTE 128
WESTFORD, VT
SOIL SAMPLING FIELD FORM
JOB # 19-138

SOIL GAS TESTING DATA SHEET

Temperature at start of testing: 27°F **outdoors** 39°F **indoors**

Temperature at end of testing: 28°F **outdoors** 37°F **indoors**

Relative humidity at start of testing: 92% **outdoors** 61% **indoors**

Relative humidity at end of testing: 88% **outdoors** 72% **indoors**

Barometric Pressure and Location 30.00"↑ **Ambient PID Background** 0.0

Pressure at End 29.98"↓

Sample #	QA Pass?	Start Time	Vacuum "HG Start	PID (start)	Diff Press (start)	End Time	Vacuum "HG End	PID End	Diff Pressure (end)
VP-1	Y	0944	-30	0.1	0.0	1142	-5	0.1	0.0
VP-2	Y	0949	-30	0.1	0.0	1149	-7	0.1	0.0
SG-1	No-Flooded		—	0.1	-2.9	—	—	—	—
SG-2	Y	1117	-30	0.1	-0.7	1317	-5	0.1	0.0
SG-3	Y	1018	-29	0.1	0.7	1215	-5	0.1	0.5
SG-4	Y	1135	-29	0.1	0.0	1332	-5	0.0	0.0
Ambient	N/A	1023	-28	0.1	N/A	1223	-7	0.1	N/A